THE
C Y C L O P À D I A ;
or,
UNIVERSAL DICTIONARY
of
Arts, Sciences, and Literature.

BY
WITH THE ASSISTANCE OF
EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,
BY THE MOST DISTINGUISHED ARTISTS.

IN THIRTY-NINE VOLUMES.
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1819.
BOOK-KEEPING.

BOOK-KEEPING, is the art of recording mercantile transactions in a regular and systematic manner.

A merchant’s books should exhibit the true state of his affairs. They should shew the particular success of each transaction, as well as the general result of the whole; and should be so arranged as to afford correct and ready information upon every subject for which they may be consulted.

Books may be kept either by single or double entry.

Single Entry is chiefly used in retail business; it is the most concise and simple method of book-keeping; but not the most perfect, being defective in some essential particulars.

Double Entry is generally used in wholesale and mercantile affairs; whence it is sometimes called Merchants’ Accounts. This method is universally preferred in extensive commerce, being the most comprehensive and systematic in its principles, and the most certain in its conclusions. Book-keeping, as a science, is, therefore, understood to mean the method by double entry; and in this sense we shall use the term, unless when there is occasion to distinguish double from single entry.

BOOK-KEEPING, History of. The origin of book-keeping, like that of most other useful arts, is involved in great obscurity. It is generally supposed to have been first practised at Venice, in the fifteenth century, when that city was the grand empire of Europe. Some authors, however, think that double entry was known to the ancients, and revived only in Italy, with the revival of commerce; and certain quotations are adduced in support of this opinion. Thus Pliny, in speaking of fortune, says, “Huic omnibus expensa; huic omnibus feruntur accepta; et in tota ratione mortuarum fola utramque paginam facit,” lib. ii. cap. 7.

Similar passages may be likewise quoted from others, which shew, that the ancients entered the receipts and pay-
La Porte's remarks on the want of method and arrangement in the old systems of book-keeping, will, in some measure, apply to his own, though it still continues a favourite work in France. We shall, however, take no further notice here of foreign publications, but confine our observations to those of our own country, where every subject connected with commerce seems to have been cultivated with the greatest industry and success.

The first treatise on book-keeping, in the English language, of which there is any account, was published in the year 1543 by Hugh Oldcastle, a schoolmaster; and it was reprinted, in 1588, by John Mellis, under the following curious title: "A brief instruction and manner how to keep books of accounts, after the order of debitor and creditor, and as well for proper accounts, partible, &c. by three bookes, named the memorials, journal, and ledger. Newly augmented and set forth by John Mellis, scholl-maister of Lodon. Imprinted by him at the Signe of the White Beare, nigh Hayward's Caile, 1588, 12mo." In his Epitile to the Reader, Mellis says, "And know ye for certain, that I presume not to set forth this work of mine own labour and industry, for truly I am but the renuer and returner of an ancient old copie printed here in Londen the 14th of August 1543." See Ames's Typographical Antiquities, vol. ii. p. 753.

In 1569, a systle of book-keeping was published in London by James Peele, who says, in its preface, "that he had instructed many mercerntile people in this art, which had been long professed in other countries, though then new in England."

There is no trace of any other work of the kind until the year 1652, when John Collins, an eminent mathematician and accountant, published a large work, entitled, "An Introduction to Merchants' Accounts," which served long as a standard book on the subject.

About the beginning of the following century, several smaller systems were written, chiefly by Snell, Hatton, Malcolm, Webbter, Miers, and Stevens; but the most popular work that had yet appeared, was Main's "Book-keeping methodized," published in 1738, which, after passing through three editions, was reprinted, with alterations, in 1768, under the new title of "Book-keeping modernized." And such alterations, he says, became necessary, "in consequence of the constant change and perpetual flux in the forms and fashions of accountthip." But it may be observed, that if this edition was modelled after the real practice of that time, the forms and arrangements of merchants' accounts must have since undergone great changes, and manifest improvements. In Main's book-keeping, however, the principles of double entry are correctly explained; but the rules and examples are too numerous and verbose for school practice.

From the first appearance of this work, to the year 1789, numerous other systems were published, better adapted to the purposes of teaching the art, though differing but little in arrangement. The most generally approved were those of Dodson, Welton, Dom, Hutton, Hamilton, Gordon, Dowling, and Jackson. Treatises were also written, within the above period, by Croby, London, Shortland, Wood, Cooke, Sedler, and Dillworth.

On a review of the foregoing publications, it does not appear that the theory of book-keeping had hitherto kept pace with the improvements of practice. While merchants were constantly adopting plans of arrangement, which promoted perspicuity and correctness, and diminished the labour of the counting-house; schoolmasters, the chief authors on book-keeping, seem only to consult or imitate each other's works, which had been long considered by men of business as obsolete or impracticable.

A work of a very different description was published in 1739, by Benjamin Booth, a merchant, who thus observes in his preface: "It is surprising that in a commercial country like this, there should not be a treatise on the subject (book-keeping), which, when applied to a large scale of business, can be reduced to practice. Thence I have seen, appear to have been written by persons who had not abilities sufficient for the undertaking, or by such as never had an opportunity of bringing their theories to the test of experience." This elaborate work, which is evidently the result of experience, contains various examples of judicious arrangement, but it is not elementary, having only a journal and ledger.

Some smaller publications followed, which deserve commendation, particularly those of Mr. Wicks and Mr. Shires. The latter work is rated to be the result of thirty years' experience. It exhibits much neatness and ingenuity in the arrangement; but, like Booth's Book-keeping, it contains only a journal and ledger.

In tracing the progress of Italian book-keeping, something should be said of a rival method, entitled the "English Book-keeping," published by Mr. Jones in 1795, a work chiefly remarkable for the enormous subscription raised on the occasion. A prospectus of this performance was previouly circulated, announcing the discovery of an infallible method of book-keeping by single entry, and at the same time represtenting the Italian method as delusive and erroneous.

By high promises and accredited recommendations, subscriptions (at a guinea each) are said to have been obtained, to the amount of six or seven thousand pounds. The work, however, did not answer the expectations of the public. Several ingenious tracts soon appeared, defending double entry, and exposing the insufficiency of this new system; and one of peculiar merit, written by Mr. Mill, closed the controversy. This gentleman, in order to form a comparative elucidation between the English and Italian methods, arranged Mr. Jones's materials into a journal and ledger, by double entry; and, in the course of the operation, detected an essential error—a detection which completed the triumph of double entry.

The English system of book-keeping, though universally rejected, has proved useful to the public as well as to the author. It gave rise to much investigation on the subject; and the extraordinary eagerness manifested in the subscription, shewed that men of business wished for a more practical system of merchants' accounts than had been hitherto offered to their notice.

In 1801, Mr. Kelly published a work, entitled "The Elements of Book-keeping," which appears to have met with very general approbation, and from which the present article is, by permission, extracted. The subsequent editions of this publication have been considerably enlarged by tracts on exchange, banking, and other commercial subjects; but its principal object (as stated in the preface) is to explain and illustrate the modern improvements of merchants' accounts. Of what these improvements consist, may be known from the following account of the work, given in Nichollson's Philosophical Journal, Feb. 1802.

"The improvements, which time and experience have effected in book-keeping, do not comprehend any change in the original principle of double entry, but in the arrangement and classification of similar accounts, which facilitate the operations of commerce nearly in the same manner that the business of manufactures is expedited by the division of labour. The elementary treatise before us (Kelly's Book-keeping)
BOOK-KEEPING.

Principles of Book-keeping both by Single and Double Entry.

Single Entry chiefly records transactions on credit, and for this purpose two books are required, called the Day Book and the Ledger.

The day book begins with an account of the owner's property, debts, &c.; then follows a detail of the occurrences of trade, set down in the order of time in which they take place.

The name of the person, or customer, is first written with the term Dr. or Cr. annexed, according as he becomes debtor or creditor by the transaction; and this may be distinguished by the following general rule:

"The person who receives is Dr. and the person who gives or parts with any thing is Cr."

Thus, if I sell goods on credit, I enter A. B. the buyer, Dr. to the goods, specifying their quantity and value.

If I buy goods on credit, I enter C. D. the seller, Cr. by the goods, specifying their quantity and value.

By the same rule, if I pay money, the person to whom I pay it is made Dr. to cash for the amount; and if I receive money, the person from whom I receive it is made Cr. by cash, for the amount.

And if debts be contracted or discharged by any other means, the same rule is observed; the person, who becomes indebted to me, is entered Dr. and the person to whom I become indebted, Cr.—Also, the person whose debt I discharge is made Dr. and he that discharges a debt due by me, is Cr.

The ledger collects together the dispersed accounts of each person in the day book, and places the Drs. and Crs. upon opposite pages of the same folio. The person's name is written in large characters as a title; on the left hand, or first page, he is styled Dr.; and on the opposite, or right hand page, Cr. On these pages the transactions are entered as they stand and Drs. or Crs. in the day-book. For instance, A. B. is debited for whatever he has bought of me; and on the opposite page, he is credited for the payments he has made. In short, whatever I have given him, is on the Dr. side, and what he has given me on the Cr.; and the difference between the Dr. and Cr. sides is called the "balance."

A short Specimen of Single Entry.

January 1, 1805.

Suppose John Smith owes me 100l. which is my whole estate; and suppose that on the 2d of January, I buy of him 80 yards of cloth, at 15s. per yard; on the 3d, I sell James Taylor, on credit, 60 yards of the said cloth at 18s. 4d. per yard; and on the 4th, James Taylor pays me in part 40l. Required the day book and ledger of the foregoing transactions, according to single entry, and also the profit or loss.

Day Book.

<table>
<thead>
<tr>
<th>Folio of Ledger</th>
<th>Jan. 1, 1805.</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>John Smith, Dr.</td>
<td>To Balance from Ledger A</td>
<td>£.</td>
<td>s.</td>
<td>d.</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>John Smith, Cr.</td>
<td>To Cloth for 80 yards, at 15s. per yard</td>
<td>60</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>James Taylor, Dr.</td>
<td>To Cloth for 60 yards, at 18s. 4d. per yard</td>
<td>55</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>James Taylor, Cr.</td>
<td>By Cash received in part</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

To post the foregoing Accounts into the Ledger.

The ledger being ruled in folio form, according to the following specimen, with the left side for Dr. and the right side for Cr. also a margin for the date, and near the money columns, one for reference to the day book, proceed as follows:

Open an account for John Smith, and debit him, on the left hand page, for 100l.; and for the 2d day's transaction, credit him for 60l. on the opposite page.

For the 3d day, open an account for James Taylor, debiting him for 55l.; and for the 4th day, credit him for 40l.

When every transaction is thus posted, each account is balanced, by subtracting the larger sum or side from the greater, and then putting the difference or balance under the smaller side, by which both sums are made equal.

LEDGER BY SINGLE ENTRY.

<table>
<thead>
<tr>
<th>Month</th>
<th>Name</th>
<th>Dr.</th>
<th>Cr.</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1</td>
<td>John Smith</td>
<td>To Account from Ledger A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Jan. 3</td>
<td>James Taylor</td>
<td>To Cloth for 60 yards, at 18s. 4d. per yard</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>55</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

By the above ledger it appears that the balances are in my favour; and if these be added to the cash I have in hand, and the value of the goods unfold, the sum is the net of my estate; which, compared with my original stock, shows my profit or loss. Thus it appears that

By the above ledger it appears that the balances are in my favour; and if these be added to the cash I have in hand, and the value of the goods unfold, the sum is the net of my estate; which, compared with my original stock, shows my profit or loss. Thus it appears that

John
BOOK-KEEPING.

John Smith owes me - - £ 4.5
James Taylor owes me - - 15
I have in Cash - - 4.2
I have unaltered 120 yards of cloth, at 15s. per yard (the prime cost) 15

The net of my estate.
100 Stock beginning.

£ 10 gain.

Hence I have cleared 10l. by the sale of 60 yards of cloth at a profit of 35. 4d. per yard.

Remarks on Single Entry.

By Single Entry I cannot tell what goods are unfolded, or my profits or losses by my books only, except when the transactions are but few, as in the foregoing examples. For as the ledger here contains only the accounts of persons dealing on credit, it affords no other knowledge to the owner, than what debts are due to him, and what he owes.

But if he wishes to know what goods are undistributed, or what he has gained or lost by the whole or any part of his dealings, he cannot obtain this knowledge by single entry, without taking a flock; that is, he must weigh or measure what goods he has unfolded; and their value, added to the cash in hand, and the balance of debts, will shew the net of his estate, and this, compared with his original flock, will shew his profit or loss.

Hence book-keeping by single entry is essentially defective, as it affords no method of ascertaining the state of a merchant's affairs, without taking a flock; a task which is both laborious and liable to error, and which at best affords no adequate means of preventing embellishment or detecting fraud; but these objects are attained by double entry, perhaps as effectually as human ingenuity can devise.

Double Entry.

In double entry, three principal books are required; the WASTE BOOK, JOURNAL, and LEDGER.

The Waste Book gives a regular detail of the transactions of business, set down in the order of time in which they take place, and stated in a clear, simple, and circumstantial manner.

The Journal records the same transactions as the waste book, but they are differently expressed; for here, the Drs. and Crs. of the various accounts are ascertained, in order to transfer them with more ease to the ledger.

The manner of ascertaining the Drs. and Crs. of each transaction here is the same, in effect, as in single entry; but in double entry, things, as well as persons, are made Drs. and Crs.; and one thing or person is made Dr. to another thing or person.

Thus, if I sold cloth to A. B. on credit, I enter it in the journal, A.B. Dr. to Cloth. If I buy cloth of C. D. on credit, I journalize it, Cloth Dr. to C. D.; and if I buy or sell for ready money, or barter one kind of goods for another, the following general rule must be observed:

"What I receive is Dr. to what I give or part with."

For instance, if I buy cloth of ready money, the journal entry is "Cloth Dr. to Cash;" and if I sell it for ready money, "Cash Dr. to Cloth;" always specifying the quantity, price, and amount.

When two or more persons or things are included in the same account, they are expressed by the term "Sundry," or "Sundry Accounts," thus, if I sold cloth for part money, and the rest on credit, I journalize it, "Sundry Drs. to Cloth;" and then specify the particulars.

The following rules for distinguishing Dr. and Cr. will apply in all cases:

The person to whom, or for whose account I pay, or furnish the means of payment, is DEBTOR.

The person from whom, or for whose account, I receive, or who furnishes me with the means of payment, is CREDITOR.

Every thing which comes into my possession, or under my direction, is DEBTOR.

Every thing which passes out of my possession, or from under my direction, is CREDITOR.

The word INOCS is sometimes used to affix the memory as being composed of the initials of the rule—In DEBTOR, Out CREDITOR.

The following lines may likewise affix the memory in journalizing:

By journal laws, what I receive,
Is debtor made to what I give;
Stock for my debts must debtor be,
And creditor by property;
Profit and loss accounts are plains,
I debt lots, and credit gain.

The ledger collects the scattered items, articles, or transactions, from the journal, and places them under their respective heads, opposing the Drs. and Crs. of each, on the same principle as in single entry; but here accounts are opened for goods as well as for persons, and every account is entered twice, whence this method is called "double entry."

The accounts of the ledger are distinguished into three kinds, personal, real, and fictitious.

Personal accounts are the same in double as in single entry; and every person is debited or credited as he stands Dr. or Cr. in the journal.

Hence every personal account, suppose that A. B., contains on the Dr. side all items or articles, by which he becomes indebted to me, and on the Cr. side all items or articles, by which I become indebted to him.

Real accounts are those opened for merchandise, or any other species of property, such as cash, bills, ships, houfes, &c. Here, as in all other accounts, each transaction is entered on the Dr. or Cr. side, as it stands in the journal. Thus, goods bought are entered on the Dr. side; and when these or any part of them are sold, they are entered on the Cr. side; by which the quantity on hand, and the profit or loss on each article may be, at any time, ascertained.

Fictitious accounts are those of stock, and profit and loss.

Stock is a term used to represent the name of the merchant or owner of the books. On the Dr. side is entered the amount of the debts which he owes when the books were opened; and on the Cr. the amount of the cash, goods, debts, and any other property then belonging to him. The difference between the Dr. and Cr. sides shews his net stock, at that time.

Profit and loss is a general term used for either gain or loss, such as may arise from trade, interest, commission, &c. On the Dr. side are entered all transactions of losses; and on the Cr. side those of gain—the difference shews the net gain or loss.

A short Example of Double Entry.

<table>
<thead>
<tr>
<th>WASTE BOOK.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LONDON, Jan. 1, 1805.</strong></td>
</tr>
<tr>
<td>John Smith owes me, as per old Account in Ledger A.</td>
</tr>
<tr>
<td>John Smith owes me,</td>
</tr>
<tr>
<td>Bought of John Smith, 80 yards of Cloth, at 15s. per yard, on account</td>
</tr>
<tr>
<td>Sold James Taylor on credit, 60 yards of Cloth, at 18s. 4d. per yard</td>
</tr>
<tr>
<td>Received of James Taylor, in part</td>
</tr>
<tr>
<td><strong>JOUR-</strong></td>
</tr>
</tbody>
</table>
### BOOK-KEEPING.

#### Ledger.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Dr.</th>
<th>Credit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>Jan. 1</td>
<td>Stock</td>
<td>John Smith</td>
<td>£100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For Balance of old account</td>
<td></td>
<td>£100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cloth Dr. to John Smith</td>
<td>£60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>For 80 yards, bought at 15s. per yard</td>
<td>£60</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>James Taylor Dr. to Cloth</td>
<td>£55</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>For 60 yards, at 18s. 4d. per yard</td>
<td>£55</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cash Dr. to James Taylor</td>
<td>£40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Received of him on account</td>
<td></td>
<td>£40</td>
</tr>
</tbody>
</table>

### Rules for posting the Journal into the Ledger.

The ledger being ruled with the Dr. side to the left, and the Cr. side to the right, (as before described) let there be a space allotted to the left of each page, for the day of the month, and to the right, for the page of the journal from whence each account is taken.

The accounts are mostly opened in the ledger, according to the order in which they stand in the journal; this is not, however, essential to the truth of the work, but it is the most regular method, and the most clear to learners. The flock account stands first, and, like all other accounts, is debited or credited as journalized.

Here flock is Cr. by John Smith; then, for the second entry, John Smith is Dr. to Stock, for every Dr. must have a Cr. and every Cr. a Dr.

By the same rule the other accounts are entered twice in the ledger; first, in the direct way, as they stand in the journal, and then reversed. Thus, the second day’s account is posted, Cloth Dr. to John Smith, and then John Smith Cr. by Cloth.

In the same manner the third and fourth day’s accounts are posted; James Taylor is debited to Cloth, and Cloth credited by James Taylor; Cash is next made Dr. to James Taylor, and James Taylor Cr. by Cash.

Here it may be observed that, when an account is once opened in the ledger, every following transaction which concerns it, must be brought back, and entered there on the proper side, as an account is never opened twice, though it may be transferred for want of room.

---

#### Ledger.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Dr.</th>
<th>Credit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>Jan. 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To Balance for the Net of my Estate</td>
<td>£100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 2</td>
<td>To John Smith, 80 yards, at 15s. 4d. per yard</td>
<td>£60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To Profit and Loss</td>
<td>£10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 3</td>
<td>To Cloth for 60 yards, at 18s. 4d. per yard</td>
<td>£55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 4</td>
<td>To James Taylor</td>
<td>£40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Profit and Loss</td>
<td>£10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To Stock gained</td>
<td>£10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Cr.</th>
<th>Credit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1805</td>
<td>Jan. 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By John Smith</td>
<td>£100</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Profit and Loss</td>
<td>£10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Contra,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 2</td>
<td>By Cloth</td>
<td>£60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Balance</td>
<td>£40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Contra,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 3</td>
<td>By James Taylor, 60 yards, at 18s. 4d. per yard</td>
<td>£55</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Balance unfolded, 20 yards, at 15s.</td>
<td>£15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Contra,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 4</td>
<td>By Cash</td>
<td>£40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Balance</td>
<td>£15</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Contra,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Balance</td>
<td>£40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Per Contra,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>By Stock for the Net of my Estate</td>
<td>£110</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To make a trial balance.

When every account is posted twice from the journal into the ledger, and on opposite, or contrary, sides, it is evident that all the sums on the Dr. side will equal all those on the Cr. side.

This trial, or check, is generally made on a separate paper, and it may be performed every day, month, or year, according to the extent of the business. The titles of the ledger accounts are written under each other with Dr. to the left, and Cr. to the right. Annexed to each, on its proper side, is set down the sum of every Dr. and Cr.; and both sides will agree if the work be right; as in the following example, from the preceding ledger.

<table>
<thead>
<tr>
<th>Dr.</th>
<th>Cr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55</td>
<td>0</td>
</tr>
<tr>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>255</td>
<td>0</td>
</tr>
</tbody>
</table>

To make the general balance, and close the ledger.

The journal being all correctly posted, an account must be opened for profit and loss, and another for balance. These two accounts, with that of stock, are not to be closed until the others are balanced.

Proceed, therefore, to the second account, where the difference between the Dr. and Cr. sides appears to be 40l.; set this sum under the smaller side, making both equal.

This balance or difference being on the Cr. side, John Smith’s account is therefore credited by balance, and on the balance sheet it is entered on the Dr. side: for if John Smith be Cr. by balance, then is balance Dr. to John Smith.

By this simple method all personal accounts are closed; but in real accounts a double operation is necessary, when any of the goods remain unfold, as these must be first balanced.

Thus, in the cloth account, the quantities on the Dr. and Cr. sides must be compared, and their difference set down under the smaller quantity, making both sides equal.

Here the difference is 20 yards, which, at first cost, is worth 15l.; this sum must be entered on the Cr. side of the cloth account, and then on the Dr. side of the balance account, thus making cloth Cr. by balance, and balance Dr. to cloth.

When the goods on the Dr. and Cr. sides are balanced, the money columns must be next compared, and their difference shows the profit or loss on the article. In the cloth account the Cr. side is 10l. more than the Dr.; hence cloth is made Dr. to profit and loss for that sum; and profit and loss Cr. by cloth for the same.

James Taylor’s account, and the account of cash being next balanced, proceed to prove the work.

The proof of book-keeping.

The accounts being all balanced, except those of stock, profit and loss, and balance, let the profit and loss account be first closed. Here profit and loss is Dr. to profit for 10l. gained, and therefore stock is made Cr. by the stock.

The stock account must be next closed, where the balance appears to be 110l. Hence stock is made Dr. to balance for this sum, and the balance account must therefore be made Cr. by stock for the same.

Now if the work be right, both sides of the balance ac-
tion, with a reference to the subsidiary book, where the particulars are to be found.

In the subsidiary books each month's occurrences are chalked together, and so disposed as greatly to simplify the journal; but the principal advantage of this arrangement consists in carrying a whole month's cash, or bills, in one line to the ledger: and the same may be done with a month's commission, interest, insurance, &c. though the practice is not yet become so general. Specimens of both methods are here given.

Besides these advantages of simplicity and conciseness, the subsidiary books have other important uses as originals. Every exporter and importer of goods upon commission, must have an invoice and sales book, and the cash and bill books are necessary in all departments of commerce.

Where subsidiary books are kept for every kind of business, a waste book like the following may be dispensed with: though such will be found highly useful, both as an index and day book. But, in teaching, a book of this kind is essentially necessary, not only as connecting the other books, and giving a ready reference to each, but as affording a regular history of the business, which the learner should always understand. It is perhaps the want of this knowledge that renders the theory of book-keeping so much more obscure and perplexing than the practice.

THE WASTE OR DAY BOOK.

This book opens with an inventory of the merchant's property, (supposed to be transferred from the balance account of a former ledger,) after which, a general register or diary is given of all transactions, in the order of time in which they happened, with a reference to the subsidiary books, where such are regularly entered. The following are the references:


WASTE BOOK, Jan. 1, 1805.

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>210</td>
<td>On Ramfay and co. due</td>
<td>520 0 0</td>
</tr>
<tr>
<td>246</td>
<td>On Edward Malone Jan. 25, 400 0 0</td>
<td></td>
</tr>
<tr>
<td>235</td>
<td>On ditto</td>
<td>383 10 0</td>
</tr>
<tr>
<td>344</td>
<td>On Hamilton and co. Feb. 1.</td>
<td>312 0 0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1615 10 0</td>
</tr>
<tr>
<td></td>
<td>Bills payable for the following bills accepted</td>
<td>2628 3 0</td>
</tr>
<tr>
<td></td>
<td>by me (particulars from former bill book.)</td>
<td>6556 11 0</td>
</tr>
</tbody>
</table>

Shipped on board the Neptune, for Naples, Henry Marlow master, sugar for the account of William Pemberton, as a invoice book, viz. Merchandise 158 10 0. Charges 7 16 0. Commission 4 18 2. Insurance 3 2 0. Accepted a bill drawn on me by George Holland, as a bills payable, No. 1. Received by this day's post a bill from Charles Le Coin, of 2385 livres 11 fous, at 25% per cent. due, as a bills receivable, No. 1. Paid Henry Barlow's bill, No. 215. as a cash book 410 0 0. Received discount on the above, for 29 days, at 5% per cent. C. B. 112 6 0. Shipped on board the Swan, for Bilboa, sundry goods for the account of William Lamos, as a B. B. vix. Merchandise 635 19 0. Charges 10 13 8. Commission 19 11 4. Insurance 11 1 6.
### WASTE BOOK, Jan. 12, 1805.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid Charles Mills's bill, due this day, No. 213, C. B.</td>
<td>713.11 c</td>
</tr>
<tr>
<td>Received the amount of Ramfay and co's bill, No. 210, as &amp; C. B.</td>
<td>520 c</td>
</tr>
<tr>
<td>Shipped on board the Betty, for Leithorn, and for the account of Wilton and Vaughan, as I. B. viz.</td>
<td></td>
</tr>
<tr>
<td>Merchandise</td>
<td>213 4 5</td>
</tr>
<tr>
<td>Charges</td>
<td>0 2 6</td>
</tr>
<tr>
<td>Commission</td>
<td>4 17 2</td>
</tr>
<tr>
<td>Insurance</td>
<td>3 15 c</td>
</tr>
<tr>
<td>Total</td>
<td>221 19 1</td>
</tr>
<tr>
<td>Accepted a bill drawn by Gibbon and Carr, No. 2, B. P.</td>
<td>300 0 c</td>
</tr>
<tr>
<td>Bought of Samuel Lightfoot, sundry goods amounting, as &amp; bills of parcels, to</td>
<td></td>
</tr>
<tr>
<td>Received from William Chalmley, two bills, No. 2. and 3, B. R.</td>
<td>582 10 c</td>
</tr>
<tr>
<td>Samuel Lightfoot has drawn upon me two bills, No. 2. and 3, B. P.</td>
<td>105.0 0 c</td>
</tr>
<tr>
<td>Arrived the Nancy, from Oporto, on board of which are ten pipes of Port wine, conferred to me by Millman and son, to sell for their account, S. B.</td>
<td></td>
</tr>
<tr>
<td>Paid sundry charges on landing</td>
<td>156 11 9</td>
</tr>
<tr>
<td>Received of William Lamos, three bills of exchange, No. 4, 5, and 6, B. R.</td>
<td>800 0 c</td>
</tr>
<tr>
<td>Received cash of Edward Malone's bills, No. 4, 14, and 235, C. B.</td>
<td>783 10 c</td>
</tr>
<tr>
<td>Paid John Gibson's bill, No. 214, C. B.</td>
<td>431 15 9</td>
</tr>
<tr>
<td>Paid James Harrison's bill, No. 219, C. B.</td>
<td>210 10 6</td>
</tr>
<tr>
<td>Received from G. Seaford, my half share for freight on board the ship Charlotte, C. B.</td>
<td>138 10 6</td>
</tr>
<tr>
<td>Received from William Shepherd for the produce of farm in Kent, C. B.</td>
<td>54 10 0</td>
</tr>
<tr>
<td>Accepted three bills drawn by Smithson and Co. No. 5, 6, and 7, B. P.</td>
<td>820 5 0</td>
</tr>
<tr>
<td>Paid for repairs on board the ship Charlotte, C. B.</td>
<td>43 15 0</td>
</tr>
<tr>
<td>Paid Walter and Hung's bill, No. 210, C. B.</td>
<td>610 15 3</td>
</tr>
<tr>
<td>Paid Thomas Pembroke's bill, No. 218, C. B.</td>
<td>105 11 6</td>
</tr>
<tr>
<td>Shipped on board the Hope, Stanley, for Jamaica, sundry goods for sundry persons, as I. B. viz.</td>
<td></td>
</tr>
</tbody>
</table>

### WASTE BOOK, Jan. 31, 1805.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter and West, Merchandise</td>
<td>375 9 9</td>
</tr>
<tr>
<td>Charges</td>
<td>3 19 5</td>
</tr>
<tr>
<td>Commission</td>
<td>11 10 8</td>
</tr>
<tr>
<td>Insurance</td>
<td>12 13 6</td>
</tr>
<tr>
<td>Total</td>
<td>403 18 4</td>
</tr>
<tr>
<td>Hampton and Co. Merchandise</td>
<td>170 2 0</td>
</tr>
<tr>
<td>Charges</td>
<td>7 12 6</td>
</tr>
<tr>
<td>Commission</td>
<td>5 7 10</td>
</tr>
<tr>
<td>Insurance</td>
<td>5 19 0</td>
</tr>
<tr>
<td>Total</td>
<td>189 1 4</td>
</tr>
<tr>
<td>Edward White, Merchandise</td>
<td>608 2 6</td>
</tr>
<tr>
<td>Charges</td>
<td>5 5 6</td>
</tr>
<tr>
<td>Commission</td>
<td>18 11 8</td>
</tr>
<tr>
<td>Insurance</td>
<td>20 7 6</td>
</tr>
<tr>
<td>Total</td>
<td>652 6 8</td>
</tr>
<tr>
<td>James Prime, Merchandise</td>
<td>764 12 11</td>
</tr>
<tr>
<td>Charges</td>
<td>9 9 2</td>
</tr>
<tr>
<td>Commission</td>
<td>21 13 11</td>
</tr>
<tr>
<td>Insurance</td>
<td>27 10 11</td>
</tr>
<tr>
<td>Total</td>
<td>652 1 8</td>
</tr>
<tr>
<td>Edmund Connor, Merchandise</td>
<td>923 15 3</td>
</tr>
<tr>
<td>Charges</td>
<td>8 14 5</td>
</tr>
<tr>
<td>Commission</td>
<td>28 6 2</td>
</tr>
<tr>
<td>Insurance</td>
<td>36 5 6</td>
</tr>
<tr>
<td>Total</td>
<td>763 5 11</td>
</tr>
<tr>
<td>Richard Broadly and Shipper, each a half share, Merchandise</td>
<td>997 0 10</td>
</tr>
<tr>
<td>Charges</td>
<td>80 0 6</td>
</tr>
<tr>
<td>Commission</td>
<td>139 11 3</td>
</tr>
<tr>
<td>Total</td>
<td>218 1 8</td>
</tr>
<tr>
<td>Received a dividend at the bank, half year's interest on £4,000. at 4 % Cent. C. B.</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
</tr>
<tr>
<td>Sold £2,000 stock at 79 1/2 % Cent. commission</td>
<td>159 5 0</td>
</tr>
<tr>
<td>Total</td>
<td>31 13</td>
</tr>
<tr>
<td>Received this month, debentures for sundry goods shipped, amounting to</td>
<td>138 15 0</td>
</tr>
<tr>
<td>Received cash for debentures this month, C. B.</td>
<td>195 10 6</td>
</tr>
<tr>
<td>Paid sundry charges this month for house expenses, C. B.</td>
<td>68 10 0</td>
</tr>
<tr>
<td>All the infusions of this month have been made with the London Assurance Company, and the premiums are unpaid.</td>
<td></td>
</tr>
</tbody>
</table>
BOOK-KEEPING.

SUBSIDIARY BOOKS;


THE BILL BOOK.

The bill book is an index or register of bills of exchange, whether receivable or payable.

Bills receivable are those which the merchant receives in payment of some debt or contract—and bills payable are such as are drawn upon him, and which he must pay when due.

When Bills receivable come to hand, their particulars are entered in their respective columns of the bill book; and the particulars of bills payable are likewise entered in their proper columns, when advice is received of their having been drawn, or when they are left for acceptance.

The use of the bill book will be understood by observing how the two following bills are entered.

Bills Receivable, January 1805.

<table>
<thead>
<tr>
<th>Page</th>
<th>N°</th>
<th>When Received</th>
<th>From whom Received</th>
<th>By whom drawn and Place</th>
<th>On whom drawn and where</th>
<th>Date</th>
<th>To whom Payable</th>
<th>Time</th>
<th>Due</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>Jan. 3</td>
<td>Chas. Le C寅</td>
<td>Jones Paris</td>
<td>Carr London</td>
<td>Dec. 9</td>
<td>William Bing</td>
<td>2 Months sight</td>
<td>March 6</td>
<td>85 1/2</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Ditto</td>
<td>Wm. Chumley</td>
<td>Bill Hull</td>
<td>Hall Ditto</td>
<td>Jan. 5</td>
<td>Charles Hume</td>
<td>31 Days sight</td>
<td>Feb. 22</td>
<td>23 2/10</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Ditto</td>
<td>Ord Peterburg</td>
<td>Fox</td>
<td>Brifol</td>
<td>Nov. 9</td>
<td>George Ellis</td>
<td>21 Days sight</td>
<td>Feb. 12</td>
<td>37 1/2</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Ditto</td>
<td>Wm. Lamos</td>
<td>Pope</td>
<td>Bilboa</td>
<td>Jan. 2</td>
<td>Edward Ingram</td>
<td>2 Months sight</td>
<td>Feb. 26</td>
<td>250</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Ditto</td>
<td>Fry</td>
<td>Ditto</td>
<td>Hood London</td>
<td>Jan. 2</td>
<td>Horner &amp; Scott</td>
<td>2 Months sight</td>
<td>Feb. 26</td>
<td>310</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Ditto</td>
<td>Hill</td>
<td>Ditto</td>
<td>Cox Ditto</td>
<td>Jan. 2</td>
<td>White &amp; Croker</td>
<td>2 Months sight</td>
<td>Feb. 26</td>
<td>240</td>
</tr>
</tbody>
</table>

Bills Payable, January 1805.

<table>
<thead>
<tr>
<th>Page</th>
<th>N°</th>
<th>By whom drawn and Place</th>
<th>Date</th>
<th>To whom Payable</th>
<th>Time</th>
<th>Acc't</th>
<th>Due</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>George Holland</td>
<td>Jan. 2</td>
<td>George Binns</td>
<td>31 Days sight</td>
<td>Jan. 2</td>
<td>Feb. 5</td>
<td>400</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Gibbon &amp; Carr</td>
<td>Jan. 12</td>
<td>Alfred Simpson</td>
<td>31 Days sight</td>
<td>Jan. 10</td>
<td>Do. 15</td>
<td>500</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Sml. Lightfoot</td>
<td>Jan. 21</td>
<td>John Andrews</td>
<td>31 Days sight</td>
<td>Jan. 21</td>
<td>Do. 24</td>
<td>500</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Ditto</td>
<td>Jan. 23</td>
<td>Ellis &amp; Co.</td>
<td>2 Months sight</td>
<td>Jan. 24</td>
<td>Mar. 27</td>
<td>550</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Ditto</td>
<td>Jan. 26</td>
<td>Henry Watts</td>
<td>31 Days sight</td>
<td>Jan. 25</td>
<td>Mar. 3</td>
<td>1010</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Ditto</td>
<td>Jan. 26</td>
<td>Wright &amp; Hull</td>
<td>31 Days sight</td>
<td>Jan. 25</td>
<td>Do. 3272</td>
<td>5</td>
</tr>
</tbody>
</table>

INVOICE BOOK.

An Invoice is a paper sent off with goods exported on commission. The preamble generally contains the name of the ship, master, place of destination, and of the person to whom the commission is made.

An account is next given of the quantity and amount of the goods, which are generally charged at the bona fide prime cost. The trademen's Bills of parcels are either copied or sent with the invoices, and referred to. The shipping charges are added to the value of the goods, and upon this sum the agent or factor generally charges his commission. When he injures the goods, he has also a small commission on the capital incurred, which capital is allowed to be something more than the value of the risk, in order to cover the amount of the risk, premium, and other expenses, in case of loss.

The cost of insurance generally concludes the invoice, and the agent signs his name at the bottom with the words, errors excepted; this signature, however, does not appear in the book.

The invoice book, which contains the copies of all invoices sent off, is sometimes called the invoice book outward, to distinguish it from the invoice book inward, which contains copies of invoices received from abroad. But this book is often dispensed with, by preferring the originals, either filed, or in pigeon-holes, or pasted in a blank book made for the purpose.

Invoices of goods received to be sold on commission, are generally copied into the sales book, to which the charges are added.

The following invoice is here deemed a sufficient specimen, and those referred to in the wafle book may be understood as arranged in the same manner.
BOOK-KEEPING.

Invoice of Sugar shipped on board the Neptune, Henry Marsom Major, for Naples, by order of William Pemberton, Merchant there, for his Account and Risk, and to him consigned.

London, Jan. 1, 1805.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9 1/20</td>
<td>1 1/11</td>
</tr>
<tr>
<td>2</td>
<td>9 0 25</td>
<td>1 0 27</td>
</tr>
<tr>
<td>3</td>
<td>9 2 17</td>
<td>1 1 0</td>
</tr>
<tr>
<td>4</td>
<td>9 1 26</td>
<td>1 1 2</td>
</tr>
</tbody>
</table>

Gros 37 3/4 5 0 12

Net 32 2 20 at 51. 3s. 4d. Cwt. 168 5 10

CHARGES.

Debenture Entry - 4 9 0
Cost of Hogheads - 1 12 6
Cartage, Wharfage, Lighterage, and Bills of Lading - 1 4 6

Commission on 1761 - 3s. 10d. at 2 2 17 0
Premium of Insurance on 1901 at 1 1 2 17 0
Policy Duty - 0 5 0
Commission 1/2 3s. 4d. 19 0

Drawback allowed at the Custom-House - 184 2 0


The Sales Book, or Factory Book.

This book is used to trace the net proceeds of any cargo or consignment sold upon commission.

An account sales generally occupies two pages, with a preamble over both, setting forth the names of the goods, ship, and person, from whom the consignment is received. The first, or left-hand page, contains an account of the various charges incurred by the transaction, such as freight, custom, expenses of landing and selling, together with the brokerage, and factor's commission, both of which are charged on the gross amount of the Sales. Commission is sometimes charged on money advanced for duty, together with the gross amount of the consignment; and some factors likewise charge interest on all advances.

The second, or right-hand page, contains an account of the quantity, price, and amount of the goods sold, with the buyer's name, and the time of payment. The difference between this gross amount, and the charges, is the net proceeds; for which the factor gives his correspondent credit, and sends him a copy of the account sales, to which he generally signs his name, with the words Errors excepted.

In small consignments, an account sales may be comprised in one page, beginning either with the charges, or with the amount of the goods. The forms of these accounts are various, but all tend to the same object, that of ascertaining the net proceeds.
## The Cash Book

The cash book contains an account of all money transactions; it is kept in a folio form like the ledger, with Dr. marked on the left-hand page, and Cr. on the right. On the Dr. side is entered all money received, and on the Cr. all money paid.

The amount of these receipts or disbursements may be carried in one sum to the ledger, for every month, week, or day, according to the extent of the businefs; but monthly divisions are most general; and it is found convenient to transfer the cash book first to the journal, claffing articles of the same kind together.

The following cash book is formed from the waite and subsidiary books, by obferving those tranfactions where money is either paid or received, and entering them accordingly with dates, names, and other neceffary particulars. In real businefs, however, such tranfactions should be entered at the time they take place.

Separate columns are sometimes allotted in the cash book for money kept at different places; fuch as, at a banker's, at the bank, and at home. The banker's book is occafionally found useful in correffeting and abridging the cash book, which may be also abridged by the help of a petty cash book, containing an account of small charges on merchandise, and of other incidental expences.

The cash book sometimes contains accounts that need not be transferred to the journal; fuch as loans and accommodations, which are to be fon repaid; these may be entered ftort, and when settled, they, of coufre, balance themselves.
BOOK-KEEPING.

JOURNAL.

The journal opens with the inventory of stock; after which the subsidiary books are journalized separately, according to the following rules, and then such transactions of the waiting book as are not contained in any of the subsidiary books, close the journal for the month.

Rules for journalizing the Subsidiary Books.

1. To journalize the cash book.

For all money received, "Cash Dr. to Sundries;" for all money paid, "Sundries Dr. to Cash;" specifying particulars, and classing items of the same kind together. See p. 1. and 2. journal.

2. To journalize the bill book.

For all bills received, "Bills receivable Dr. to Sundries;" for all bills accepted, "Sundries Dr. to Bills payable;" setting forth names, numbers, and other necessary particulars. See p. 2. journal.

3. To journalize the invoice book.

The person, for whose account the invoice is sent, "Dr. to Sundries," viz.
  "To Merchandise," for amount of goods.
  "To Charges on Merchandise," for shipping, and other charges.
  "To Commission," for the factor's commission.
  "To Insurance," for premium of insurance. See p. 5. journal.

When several invoices are sent by the same ship, they may be arranged in columns, as in p. 5. journal; a method which promotes both accuracy and dispatch, and which might be also used with the invoice book in general, and with the sales book.

4. To journalize the sales book.

The person, to whom the goods are sold, is debited for the sales; and if they are sold for ready money, the account is entered accordingly in the cash book. Then,

"Sales (the ship's name, &c.) Dr. to Sundries."
"To Charges on Merchandise," for charges at landing, &c.
"To Interest," for interest, if charged on money advanced.
"To Commission," for the factor's commission.
"To A. B. (the consignor)," for net proceeds. See p. 4. and 6. journal.

The above titles vary in different houses; as "Sales of Cotton, Sugar, &c. per the ship, Dr. ;" "Merchandise imported, Dr. ;" and the charges on sales and invoices, viz. "Freight," "Convoy," "Duty," and "Customs," are most fully arranged under separate heads. But, however these modes and terms may vary, the principles and refult are the same.

Note. The pages of the different books are put in parentheses in the corners; and in the ledger the page of the journal, where the article is to be found, is inserted in a column next to the date; and the reference next to the money column shews the folio of the ledger where the second entry is made; but here there can be no figure for "Sundries," as the sundry accounts may occupy different folios; this is an inconvenience which can be only remedied by turning to the journal, where the sundries are specified, and where the folio of each ledger account is marked in the margin.
### Book-keeping

#### JOURNAL, Jan. 1805

<table>
<thead>
<tr>
<th>Date</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Sundries Drs. to Stock</strong></td>
<td>For the following Balances in my favour the 31st ult. transferred.</td>
<td></td>
</tr>
<tr>
<td><strong>Cash—for balance in hand</strong></td>
<td>11700</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Funded property 4000l. at 7½% in the 4 per cents.</strong></td>
<td>3130</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Farm in Kent</strong></td>
<td>1520</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>House at Richmond</strong></td>
<td>500</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Household Furniture</strong></td>
<td>750</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Ship Charlotte—my half</strong></td>
<td>3120</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>Merchandise—for balance in hand</strong></td>
<td>2165</td>
<td>10 0</td>
</tr>
<tr>
<td><strong>Debentures</strong></td>
<td>462</td>
<td>10 0</td>
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<tr>
<td><strong>Bills receivable, for the amount of bills due to me</strong></td>
<td>2225</td>
<td>10 0</td>
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<tr>
<td><strong>Millman and Son</strong></td>
<td>Lisbon</td>
<td>572</td>
</tr>
<tr>
<td><strong>Le Coin</strong></td>
<td>Paris</td>
<td>389</td>
</tr>
<tr>
<td><strong>Lamos</strong></td>
<td>Bilboa</td>
<td>418</td>
</tr>
<tr>
<td><strong>Chalmley</strong></td>
<td>Hamburgh</td>
<td>310</td>
</tr>
<tr>
<td><strong>Pemberton</strong></td>
<td>Naples</td>
<td>721</td>
</tr>
<tr>
<td><strong>Wilson and Vanelli</strong></td>
<td>Leghorn</td>
<td>570</td>
</tr>
<tr>
<td><strong>Stock Dr. to Sundries.</strong></td>
<td>For the following Balances against me the 31st ult. transferred.</td>
<td></td>
</tr>
<tr>
<td><strong>To Smithson and Co.</strong></td>
<td>London</td>
<td>820</td>
</tr>
<tr>
<td><strong>To George Holland</strong></td>
<td>Ditto</td>
<td>421</td>
</tr>
<tr>
<td><strong>To Gibson and Carr</strong></td>
<td>Birmingham</td>
<td>268</td>
</tr>
<tr>
<td><strong>To Winter and Weft</strong></td>
<td>Jamaica</td>
<td>506</td>
</tr>
<tr>
<td><strong>To Hampton and Co.</strong></td>
<td>Ditto</td>
<td>173</td>
</tr>
<tr>
<td><strong>To Edward White</strong></td>
<td>Ditto</td>
<td>316</td>
</tr>
<tr>
<td><strong>To James Prime</strong></td>
<td>Ditto</td>
<td>516</td>
</tr>
<tr>
<td><strong>To Edmund Connor</strong></td>
<td>Ditto</td>
<td>418</td>
</tr>
<tr>
<td><strong>To Richard Broadly</strong></td>
<td>Ditto</td>
<td>216</td>
</tr>
<tr>
<td><strong>To Bills payable, for my acceptances unpaid</strong></td>
<td>2668</td>
<td>4 0</td>
</tr>
<tr>
<td><strong>Cash Dr. to Sundries.</strong></td>
<td>For the following Sums received this Month, as per C. B.</td>
<td></td>
</tr>
<tr>
<td><strong>To Interest</strong></td>
<td>1 12 6</td>
<td></td>
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<tr>
<td><strong>To Interest ditto</strong></td>
<td>80</td>
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<td><strong>To Bills receivable, No. 210</strong></td>
<td>520</td>
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<tr>
<td><strong>To Bills receivable, No. 235</strong></td>
<td>224</td>
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<tr>
<td><strong>To Ship Charlotte</strong></td>
<td>235</td>
<td>383</td>
</tr>
<tr>
<td><strong>To Farm in Kent</strong></td>
<td>1593</td>
<td>0 0</td>
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<tr>
<td><strong>To Debentures</strong></td>
<td>3368</td>
<td>13 0</td>
</tr>
<tr>
<td><strong>Bills Receivable Dr. to Sundries.</strong></td>
<td>For the following Bills received this Month, as per B. R.</td>
<td></td>
</tr>
<tr>
<td><strong>To C. Le Coin, No. 1, due Mar. 6</strong></td>
<td>85</td>
<td>14 7</td>
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<tr>
<td><strong>To W. Chalmley, Feb. 22, 210</strong></td>
<td>3, 12, 372</td>
<td>10 0</td>
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<tr>
<td><strong>To Will. Lamos, Mar. 28, 250</strong></td>
<td>5, 28, 310</td>
<td>0 0</td>
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<tr>
<td><strong>To Smithson &amp; Co. Feb. 21, 237</strong></td>
<td>6, Mar. 3, 310</td>
<td>10 0</td>
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<tr>
<td><strong>To Debentures</strong></td>
<td>7, Mar. 3, 272</td>
<td>5 0</td>
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</table>

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### Summary

- **Cash Dr. to Sundries:** Total £8112.6
- **Bills Receivable Dr. to Sundries:** Total £1468.47
- **Sundries Drs. to Cash:** Total £2854.27
- **Sundries Drs. to Stock:** Total £28566.172
- **Bills Receivable Dr. to Sundries:** Total £1468.47
- **Sundries Drs. to Bills payable:** Total £2854.27
### JOURNAL, Jan. 1803.

<table>
<thead>
<tr>
<th>Date</th>
<th>Drs.</th>
<th>Crs.</th>
<th>Amount</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>6</td>
<td>Winter and Welt</td>
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<td>7</td>
<td>Hampton and Co.</td>
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<td>Adventure to Jamaica, in company with R. Broderick, my half</td>
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<td>Richard Broderick, his half</td>
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<td>Charges on Merchandise</td>
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<td>Commission</td>
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**SUNDRIES Drs. to Sundries.**

For Amount of Invoices per 25 H. B. p. 5.

<table>
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</table>

**INSURANCE Drs. to the London Assurance Company.**

For Amount of Invoices made this Month, as per B.P.:

- Nancy, for Naples: 32 s. 0 d.
- Swan, for Bilboa: 11 s. 6 d.
- Betsey, for Leghorn: 3 s. 15 d.
- Hope, for Jamaica: 12 s. 8 s.

**DEBENTURES Drs. to Merchandise.**

For Drawbacks received this Month: 138 s. 15 d.

**GENERAL ACCOUNTS.**

- Smithson and Co.: 6 pipes at 2 months: 218 s. 1 s.
- George Holland: 4 do. at 3 months: 139 s. 11 s.

**BOOK-KEEPING.**

- For Amount of Invoices per 25 H. B. p. 5.
  - Merchandise: 375 s. 9 s.
  - Charges on Merchandise: 3 s. 19 s.
  - Commission: 11 s. 10 s.
  - Insurance: 12 s. 18 s.

- For Amount of Invoices per 25 H. B. p. 5.
  - Merchandise: 375 s. 9 s.
  - Charges on Merchandise: 3 s. 19 s.
  - Commission: 11 s. 10 s.
  - Insurance: 12 s. 18 s.

**JOURNAL, Jan. 31, 1803.**

<table>
<thead>
<tr>
<th>Drs.</th>
<th>Crs.</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Winter and Welt</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Hampton and Co.</td>
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<td>7</td>
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<td>Adventure to Jamaica, in company with R. Broderick, my half</td>
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<td>Charges on Merchandise</td>
<td></td>
</tr>
<tr>
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<td>Commission</td>
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</tr>
<tr>
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<td>Insurance</td>
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**JOURNAL, Jan. 31, 1803.**

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<td>3</td>
<td>Commission</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Insurance</td>
<td></td>
</tr>
</tbody>
</table>

**JOURNAL, Jan. 31, 1803.**

<table>
<thead>
<tr>
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<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Commission</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Insurance</td>
<td></td>
</tr>
</tbody>
</table>
BOOK-KEEPING.

The rules already laid down in the introductory part will apply in all cases that can occur for posting the journal into the ledger: some further explanations, however, may be here useful with respect to new forms and arrangements.

In the following ledger the accounts are arranged in the same order as in the journal, except in folios 2, 3, and 4, where articles, which are often referred to at the same time, are continously placed, to save the trouble of frequently turning to the index. This method of classing accounts of the same description is found very convenient in extensive business; but in the theory of book-keeping it is more obvious and regular to follow the order of the journal.

When all the accounts are opened in the ledger from the inventory of stock, let the subsidiary books in the journal, for each month, be posted in the following manner:

1. To post the journal of the cash book.

Debit the cash account—to fundries, for the amount received.
Credit the cash account—to fundries, for the amount paid.

Then, for the second or double entry.

Credit each account separately—to cash, for the respective items received.
Debit each account separately—to cash, for the respective items paid.

2. To post the journal of the bill book.

Debit bills receivable—to fundries, for their whole amount.
Credit each person from whom they have been received—by bills receivable for their respective amounts. Again, Credit bills payable—by fundries, for their whole amount.
Debit each person for whom they have been accepted—to bills payable, for their respective amounts.

3. To post the journal of the invoice book.

Debit the person to whom the invoice is sent—to fundries, for the whole amount.
Credit merchandise, charges, commission, and insurance respectively—by the said person, for the respective items annexed to these terms.

When several invoices are journalized together in columns, (as in page 5 of the journal,) the whole amounts of merchandise, charges, commission, and insurance, are each posted in one entry. This arrangement not only saves labour and repetition in the journal, and affords checks against error, but it also greatly shortens and simplifies the ledger. Had those six invoices been journalized separately, there must have been twenty-four entries in the journal, and the same number in the ledger, which, by this method, are comprised in four.

4. To post the journal of the sales book.

Debit the person or persons to whom the consignment is sold—to sales (as the ship's name) for the amount. Credit charges, commission, interest, and the consignee by sales for the sums annexed to these titles respectively. Some merchants open also a general account of sales, to which they transfer the amounts of Dr. and Cr. sides of the day book.

When the other articles of the journal are posted, a trial balance should take place. This useful check may be applied either monthly, weekly, or daily, according to the extent of the business.

In making the general balance, the residue of funded property, houfes, lands, furniture, ships, or goods unfold, is let down at the first col.; but in real businesses, it is more correct and satisfactory to enter such balances at their actual value, and to debit or credit profit and loss for the difference between their present worth and prime cost. Such a valuation becomes necessary, when any change takes place in the firm of a house, or in the terms of copartnership; and in order, at any time, to make a true estimate of profit and loss, interest should be charged on all property as well as on debts.

Partnership accounts are made very obscure and perplexing in most old systems of book-keeping, though in real businesses no such difficulty occurs. The general practice is to keep the books of a joint concern as if they belonged to one person only:—to open a separate account for each partner like that of any other individual, and on closing the books to divide the profits and losses according to the terms of co-partnerships.

Alphabetical Index to the Ledger.

A
Adventure to Jamaica
B
Bills receivable
Bills payable
Broadley, Richard
Balance

C
Cash
Charges on merchandise
Commission
Chumley, William
Conner, Edmund

D
Debentures

E
Funded property
Farm in Kent

G
Gilson and Carr

H
House at Richmond
Household furniture
Holland, George
Hampton and Co.
House expenses

I
Insurance
Interest
K
Kimpton, Edward
L
Le Coin, Charles
Lamos, William
Lightfoot, Samuel
London insurance company

M
Merchandise
Millman and Son

P
Pembertron, William
Prime, James
Profit and Losses

S
Stock
Ship Charlotte
Smithson and Co.
Sales, per the Nancy

W
Wilford and Vanelli
Winter and West
White, Edward
# Book-keeping

## Ledger

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<td>28903 16 0</td>
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## Cash

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<th>Cr.</th>
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<td>Jan. 1.</td>
<td>To Stock...</td>
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<tr>
<td>Jan. 1.</td>
<td>To Sundries...</td>
<td>Jan. 1.</td>
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## Funded Property

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## Farm in Kent

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**BOOK-KEEPING.**

**LEDGER.**

### HOUSE AT RICHMOND.

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### MERCHANDIZE.

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**Vol. V.**
### LEDGER

#### CHARGES ON MERCHANDIZE.

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<td></td>
<td></td>
<td></td>
<td>By Wilson and Vanelli</td>
<td>5 2 6</td>
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<td></td>
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<td></td>
<td>By Sundries</td>
<td>4 4 9 8</td>
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<td></td>
<td>By W. Lamos</td>
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<td></td>
<td>By Wilson and Vanelli</td>
<td>5 4 17 2</td>
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<tr>
<td></td>
<td></td>
<td>By Sundries</td>
<td>8 10 4 0 9</td>
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<tr>
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<td>By Sales $\pi$ the Nancy</td>
<td>8 8 18 9</td>
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<tr>
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<td>By W. Lamos</td>
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<tr>
<td></td>
<td></td>
<td>By Wilson and Vanelli</td>
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<tr>
<td></td>
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#### BILLS RECEIVABLE.

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<td>By Cash</td>
<td>1 130 8 10 0</td>
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<td>To Sundries</td>
<td>1 468 4 7</td>
<td>By Balance</td>
<td>1 23 9 4 7</td>
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**BOOK-KEEPING.**

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<td>5178 9 &amp; 0</td>
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### DEBENTURES.

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### MILLMAN AND SON.

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### CHARLES LE COIN.

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### BOOK-KEEPING

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<td>1038 6 8</td>
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### Book-Keeping

#### Ledger

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<td>763 5/11</td>
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</tbody>
</table>
### BOOK-KEEPING

#### LEDGER

<table>
<thead>
<tr>
<th>Dr.</th>
<th>RICHARD BROADLEY.</th>
<th>Cr.</th>
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<tbody>
<tr>
<td>Jan. 31</td>
<td>To Adventure to Jamaica</td>
<td>9 498 10</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Stock</td>
<td>1 216 9 6</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Balance</td>
<td>10 282 1 8</td>
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<tr>
<td></td>
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<td>498 10 5</td>
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<th>ADVENTURE TO JAMAICA.</th>
<th>Cr.</th>
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<tr>
<td>Jan. 31</td>
<td>To Sundries, my ¼</td>
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<tr>
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<td>To Sundries</td>
<td>357 12 10</td>
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<tr>
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<th>Cr.</th>
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<tr>
<td>Jan. 31</td>
<td>To Profit and Losses</td>
<td>9 83 17 8</td>
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<tr>
<td>Jan. 31</td>
<td>By Cash</td>
<td>1 81 12 6</td>
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<tr>
<td>Jan. 31</td>
<td>By Sales &amp; Nancy</td>
<td>8 2 15 2</td>
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<tr>
<td></td>
<td></td>
<td>83 17 8</td>
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<tr>
<td>Dr.</td>
<td>HOUSE EXPENCES.</td>
<td>Cr.</td>
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<tr>
<td>Jan. 31</td>
<td>To Cash</td>
<td>68 10 0</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Profit and Los</td>
<td>68 10 0</td>
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<tr>
<th>Dr.</th>
<th>SAMUEL LIGHTFOOT.</th>
<th>Cr.</th>
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<tr>
<td>Jan. 2</td>
<td>To Bills payable</td>
<td>41050 0</td>
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<tr>
<td>Jan. 31</td>
<td>To Balance</td>
<td>162000 0</td>
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<tr>
<td>Jan. 18</td>
<td>By Merchandise</td>
<td>33050 0</td>
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<table>
<thead>
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<th>Dr.</th>
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<tr>
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<td>To Balance</td>
<td>141 6 11</td>
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<tr>
<td>Jan. 31</td>
<td>By Insurance</td>
<td>141 6 11</td>
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<td>To House Expences</td>
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<td>Jan. 31</td>
<td>To Stock</td>
<td>336 18 10</td>
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<td>Jan. 31</td>
<td>By Funded Property</td>
<td>30 0</td>
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<tr>
<td>Jan. 31</td>
<td>By Farm in Kent</td>
<td>54 10</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Ship Charlotte</td>
<td>94 15</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Commission</td>
<td>142 6 2</td>
</tr>
<tr>
<td>Jan. 31</td>
<td>By Interest</td>
<td>83 17 2</td>
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<td>405 8 10</td>
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BOOK-KEEPING.

<table>
<thead>
<tr>
<th>Dr.</th>
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<td>Jan. 31. To Cash</td>
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<td>To Funded Property</td>
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<tr>
<td>To Farm in Kent</td>
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<td>To House at Richmond</td>
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<td>To Household Furniture</td>
<td>750.00</td>
</tr>
<tr>
<td>To Ship Charlotte</td>
<td>3120.00</td>
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<tr>
<td>To Merchandise</td>
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<td>To Bills receivable</td>
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<tr>
<td>To Debentures</td>
<td>4051.14</td>
</tr>
<tr>
<td>To Millman and Son</td>
<td>4221.13</td>
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<tr>
<td>To Charles Le Cohn</td>
<td>3641.05</td>
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<tr>
<td>To William Lamos</td>
<td>3851.18</td>
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<td>To William Pemberton</td>
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<tr>
<td>To Willson and Vancil</td>
<td>7911.12</td>
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<tr>
<td>To Smithson and Co.</td>
<td>2181.13</td>
</tr>
<tr>
<td>To George Holland</td>
<td>1171.10</td>
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<tr>
<td>To Gibbon and Carr</td>
<td>311.87</td>
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<td>To Hampton and Co.</td>
<td>1511.13</td>
</tr>
<tr>
<td>To Edward White</td>
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<td>To James Prime</td>
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<tr>
<td>To Edmund Connor</td>
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<td>To Richard Bredley</td>
<td>2821.87</td>
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<td>To Adventure to Jamaica</td>
<td>4981.15</td>
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<td>27545.14</td>
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Jan. 31. By Bills Payable
By William Clukey
By Winter and Welt
By Samuel Lightfoot
By London Assurance Company
By Stock
  27545.14 9

Remarks on the Ledger and Subsidiary Books.

As interest should be charged in the ledger upon every article, or debt, from the time it becomes due to the period of settlement, the operation ought to take place before the general balance, and the interest between the interest of the Dr. and Cr. sides of each account of the ledger should be carried back to the journal, making "Sundries Drs. to Interest" for the balance in favour of stock, and "Interest Drs. to Sundries" for the balances on the other side. These entries should then be posted to their respective accounts in the ledger; and it is common, at the same time, to insert a note in letters, and other small charges on merchandise.

The manner of inserting the balance, and profit and loss accounts, in the ledger, varies in different counting-houses. In some they are placed as in the foregoing specimen; in others, the particulars of these accounts are inserted at the end of the journal, and the sum total of each transferred to its proper place in the ledger; a method that is found very convenient in extensive business, where accounts in the ledger may be thus closed as the goods are sold off, which greatly diminishes the labour of the general balance.

Besides the subsidiary books already explained, there are various others peculiar to certain kinds of business; such as Books of Insurance, and Shipping Accounts. There are also several, the titles of which are sufficiently explanatory of their uses; such as the Order Book, Letter Book, Petty Cash Book, Diary, and Debenture Book. In some houses, a Stock Book is kept, which gives the quantity and price of each article bought and sold; thus serving as a substitute for real accounts in the ledger; a purpose which is sometimes effected by the Warehouse Book. It should be observed, that the Account Current Book is universally necessary, as it shows the state of each personal account in the ledger drawn out in a detailed and simple form, in order to transmit a copy or duplicate of each person's account to him at the period of settlement.

Factorage and Exchange Accounts.

When a merchant and his agent or factor reside in countries where different currencies are used, the factor keeps his employer's accounts in the currency of his own country, and the employer, that their books may agree, keeps the same accounts in the same currency; but he also allows an adjoining column in his ledger for the corresponding value in his own money, by which he ascertains what profits or losses may arise from the fluctuation of exchange.

In order to explain such an exchange account, the following has been selected from the ledger of a London merchant, who (as appears by the statement) remitted bills to his factor at Hamburg, and drew upon him for his reimbursement or return; he therefore debits his factor for the remittances, and credits him for the drafts; the different amounts are first entered in the inner columns in banco marks, and then in the outer columns in sterling, according to the rate of exchange at which they were negotiated, and hence arrives the profit or loss; thus, if the merchant buys the bills which he remits at a cheaper rate of exchange than he sells the drafts which he draws on his factor, there is a gain; but if otherwise, a loss. On the same principle, if he had paid debts which he owed, or received debts due to him at a more advantageous rate of exchange than those debts were contracted for, there would have been a gain, but a loss if the contrary.

An exchange account is balanced by first comparing the inner columns; and when they are equal, there is nothing due from one party to the other. The difference between the outer columns is profit and loss; but if the inner columns be unequal, the balance is what one party owes to the other, which must be carried to the outer column at the

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current rate of exchange, and then the difference between
the outer columns is the profit or loss.

The letters M (my account) are used by the merchant
in keeping the account which his factor likewise keeps, who,
in stating the same transactions, annexes to his employer's
name only (his account); and their ledgers are reversed
with respect to the Dr. and Cr. sides. Thus, the factor, in
his account of the following transactions, debits his employer
for the sums he had drawn on him, and credits him for the
remittances which he receives; and as all the bills were
drawn in marks (the money of the place where they were
to be paid), the factor has no concern with any other
money; therefore, he debits his employer for commission,
brokerage, discount, and postage, in marks, for which his
employer also credits him, and values those marks at the rate
of exchange which exists when the account is balanced.

There are other kinds of exchange accounts kept between
Cambists, or dealers in exchange, who reside in different
countries, and who agree to transact each other's business
(commission free), and divide the gains or losses. Such ac-
counts, like all other partnership concerns, require interest
calculations, according as one party may be in advance for
the other; this is the case when bills remitted are at a long
date, and drafts at a short one, or the contrary; but it fre-
quently happens that one party may be in advance for sums
which have not been received by the other party, who is
therefore only answerable for the advances in his possession,
and the interest on the remainder should be paid out of the
general profits.

These exchange accounts are kept by both parties accord-
ing to the following plan; and when they agree, the Dr.
hide of one account is equal to the Cr. of the other, and the
inner columns of one to the outer columns of the other, and
vice versa.

| Dr. | Mr. JOHN FACTOR, of Hamburgh, M|A. | Cr. |
|-----|--------------------------------|-----|
|     | S. P. Rate. | L. | d. | S. P. Rate. | L. | d. |
| 1821 |           |    |   |           |    |   |
| Jan. 30 | Balance of old account | | | | | |
| 18 | Remittance | | | | | |
| 25 | To Balance carried to new account | | | | | |
| 31 | To Profit and Losses gained by the re-exchange | | | | | |
|   | 25178 | 7 | 0 | 217210 | t | | |

Book of rates is a book established in parliament, showing
at what value goods, which pay the duty of tonnage and
poundage, are to be reckoned at the custom-house. See Cus-
tom, Duty, Poundage, and Tonnage.

The book of rates annexed to the act of tonnage and
poundage made in the 12th year of king Charles II. was
subscribed with the hand of sir Harbottle Grimelone, then
speaker of the house of commons. An additional book of
rates of goods and merchandizes usually imported, and not
particularly rated in the former, with rules, orders, &c. was
signed by Spencer Compton, esq. speaker of the house of
commons, 11 Geo. I. c. 7.

Aliens used to pay a larger proportion than natural sub-
jects, generally called the alien's duty; now repealed by stat.
24 Geo. III. c. 13, called the "Confounding Act," all the former sta-
tutes, imposing duties of customs and excise, were repealed
with regard to the quantum of the duty; and the two books
of rates above-mentioned, were declared to be of no avail for
the future; but all the former duties were consolidated, and
were ordered to be paid according to a new book of rates
annexed to that statute. By the improvement of this sta-
tute, the duty upon the exportation or importation of any
article may be easily found, or the excise duty to which
any commodity is subject, in an alphabetical table.

Book-seller, a professed trader in books; whether he
prints them himself, or procures them to be printed by
others, for sale.

Book-sellers, among us, are the same with bibliopole among
the ancients, whose office was distinct from that of librario.
Petty dealers, or venders of small wares, like our publishers,
were more particularly denominated libelliones. At Rome,
the Argiletum was the mart of books, as St. Paul's Church-
yard, or Fleet-street, and Paternoster-row, have been among
us; whence that of Martial.

Argiletanus maxis libro atabera, cum tibi, parce liber, fermina nostra vacet.
Book-sellers are a kind of agents, or curators in the republic of letters: in many places they are ranked among the members of universities, and entitled to the privileges of students: as at Tubingen, Salzburgh, and Paris, where they have always been distinguished from the vulgar and mechanical traders, and exempted from divers taxes and impositions laid on other companies.

Formerly the offices of book-sellers and printers were united in the same persons. Paper, and all other materials, as well as labour, were, in the infancy of the art, exceedingly dear; and, on the other hand, the purchasers of books were few, partly because the price of them was high, and partly because knowledge being left widely diffused, they were not so generally read as at present. For these reasons, many of the principal printers, notwithstanding their learning or ingenuity, became poor. The printers were, therefore, induced to give up the book-selling part of the business, and to retain only that of printing. Sometimes, indeed, there were rich people of all conditions, particularly eminent merchants, more especially in Germany, who catted books, which they fold, to be printed at their own expense. Thus Henry Stephens was printer at Paris to Ulric Fugger at Augsburg, from whom he received a salary for printing the many MSS. which he purchased. In some editions, from 1538 to 1567, he subscribed himself "Henricus Stephanus, illustris viri Halberdii Fuggeri typographus." In like manner, towards the beginning of the 17th century, a society of learned and rich citizens of Augsburg printed a great number of books, which had commonly at the end these words: "Ad inique pinus." Printing, therefore, thus gave rise to a new and important branch of trade, that of book-selling, which was established in Germany, chiefly at Frankfort on the Main, where is a street, confiding of several large book-sellers' shops, and called "Book-street."

Laube gives a list of learned book-sellers, most of whom were also authors. Of late days, book-sellers have drawn their business into less compacts, and leaving the labour of composing books to one set of persons, and that of printing them to another, content themselves with the gainful part; thus ministration to the republic of letters not with the head, or the hand, but the purse only.

In this view, they have been very important and useful agents between authors and the public; and have contributed, in no small degree, to the encouragement of genius and literary industry, and the spread of science. There are few authors, who have undertaken the printing and publishing of any work likely to be transmitted to posterity, without being connected with some book-seller or book-sellers, eminent in their profession.

The fairs of Frankfort and Leipzic are famous for the refort of book-sellers, not only from all parts of the empire, but Holland, Flanders, &c. They have each their shop or warehouse, over which is inscribed the name of some celebrated book-seller of former times: officina Elzeviriana, Frobeniana, Morelliana, Janseniana, &c. An acquaintance with the book-sellers' marks or signs, frequently expounded on the title pages of their books, is of some use; because many books, especially in the 17th century, have no other designation either of printer, book-seller, or even city. The uncius is the mark of Raphelengius at Leyden; and the same with a dolphin twilled round it, of the Manutii at Venice and Rome; the Arion denotes a book printed by Oporinus at Basle; the caduceus, or pegasus, by the Wechelius at Paris and Frankfort; the cranes, by Craneford; the compass, by Plantin at Antwerp; the fountain, by Valentin at Paris; the sphere in a balance, by Janson or Blaeu, at Amsterdam; the lily, by the Juntas at Venice, Florence, Lyons, and Rome; the mulberry-tree, by Moris at Paris; the olive-tree, by the Stephenses at Pari and Geneva, and the Elzevirs at Amsterdam and Leyden; the bird between two fountains, by the Frothenius at Basle; the truth, by the Comelins at Heidelberg and Paris; the Saturn, by Collinse; the printing-press, by Badia Ascen- smart.
well as the paper. Of this kind, Darmeles Lardarius is one of the most injurious. The mixture of the juice of wormwood, and other bitter ingredients, in the paste employed by book-binders, as an expedient for the security of books against the attacks of those insects, is of no utility. Mineral salts are recommended for this purpose instead of it, under an idea, falsely conceived, that insects in that case, would not prey upon them. Mr. Rederger, among other instructions to German book-binders, printed at Lippes in 1741, advises their making paste of Treacle instead of flour, if he wishes them to powder slightly the books, the covers, and even the shelves on which they stand, with a mixture of powdered alum and fine pepper; and is also of opinion, that in the months of March, July, and September, books should be covered with a piece of woollen cloth steeped in powdered alum. *Bibl. d'Hist. Nat.* t. v. 269. For the preservation of books from the depredations of the insects above described, it will be only requisite to attend occasionally to wipe and dust them, observing that the library be not kept in a damp situation. Wiping, and an exposure of the book to the heat of a good fire, will immediately destroy the mites contracted in the damp, and, of course, prevent farther injury from that cause of vermin. Corroborative powders, even arsenic itself, would be employed in vain for the destruction of the larva either of the *tinea*, or the *dermifles*; but the fumigation of tobacco, a close heat, like that of a bow oven, or the scent of camphor, will effectually destroy them. The latter remedy we are certain, from experience, to be excellent. Mulk might, perhaps, answer nearly as well; or, lastly, if alum be preferred, let it be sifted into the powder. When M. Rederger recommended his preparation of powder-alum, he did not seem to be aware, that if employed in a crude, unburnt state, it could produce no effect upon the insects intended to be destroyed.

BOOKING, among Merchants, &c. the making an entry of any matter in the journal. See *Book, Book-keeping,* and *Journal.*

BOOK, in the Sea-Language, a long pole employed in extending the tails of a ship, principally in moderate breezes of wind. Of these there are various kinds, according to the purposes for which they are intended. 

Booms, simply so called, are those employed in extending the lower tails when the ship is going large; which is done by putting one end of the boom into the hole of the tail, and the other end to a but against the side of the ship. These booms are obtained in their proper positions by means of ropes called gars.

*Driver-boom,* is that which is used in extending the lower part of the driver.

Jib-boom, is a spar run out from the bowsprit, and is, therefore, a continuation of it, in the same manner as the top-mast is that of the main. Upon this boom the jib, in square-rigged vessels, is let; and hence its name. In some vessels, the length of the boom is so much increased, as to carry a flying jib.

Main-boom, is that which serves to extend the lower part of the main-mast in vessels having only one main: in brigs, &c. it extends the lower part of the fore and aft main-mast, the upper part, in either case, being extended by a gall.

Spunker-boom, a boom projecting from the main-mast, considerably beyond the tail, by which a larger sail can be extended than by the common boom.

Studding-sail-boom, are booms run out from the yard arms, from which the fladdering-sails are suspended.

To *Boon-off,* is to pull anything away, as a ship, &c. by means of a rod or boom.

Boon also denotes a pole with a bush or balfet on the top, placed to direct ships how to flieer into a channel; otherwise called a beacon.

*Boom* likewise, is used, in *Marine Fortification,* to denote a cable or cables stretched athwart the mouth of a river, or harbour, with yards, top-masts, battlements, or spars of wood, lashed to it, and girded with iron hoops rivetted together and nailed to the spars, to prevent an enemy's entering. Such a boom M. Chatelet Renauld had with diligence and art prepared at Vigo, for the defence of the plate fleet lying there in 1522; but how strong it was, it was forced by Vice-Admiral Hayton. on the Tuscan.

To lay a boom, provide a great number of wooden battings, or spars, of about 20, 30, or 40 feet length, and between 5 and 10 inches diameter; then moor two boats, having a fleet-anchor in each, in the place near one side of the river where it is intended the boom shall begin; bend two cables to these anchors, and round them place the spars or poles, frapping on each with battlement, or with four-inch ropes, until the boom is 7, 8, 9, or 10, or more feet in diameter, according to the hands employed, the cables being in the middle: then, with iron hoops rivetted together, warm the boom, and drive through the hoop a nail into almost every spar. After having wrought a good birth for the anchors, drop them, and continue the work till it is brought near the other edge of the river, and there drop two anchors more, with the cables bent to them. After all the spars yards and top-masts, with the top-chains, so far as the channel goes. To that part of the cable in the boom, over the channel, let two or more cables be fastened, and bent to anchors laid down the stream; over the clinch of these cables let batttings or spars be wrought for near 15 fathoms down the stream, that the enemy may not cut these cables. There will be serviceable when the enemy's ships come “remlings” against the boom; for if he force it in one place, the whole will not be opened by that fracture. In places where wood is scarce, and spars cannot be readily procured, or in cases where there is not time enough for preparing them, it may be sufficient to would two cables together with old ropes, lathing to them the oars, top-masts, and yards, and worming the whole about with iron hoops; and let every part be well “payed” with pitch, and small gravel smeared in it while the pitch is warm. A boom so prepared cannot be easily cut. The boom should generally be so contrived, as to open at one end for the passage of vessels; and there are several ways of doing this. One is, to clinch one end of the cable to an end of a large mooring-chain, the other end floating with a buoy, and this enmeshed to the ring of an anchor by a shackle. The chain being loosed from the anchor at the cbb, with a lack hawser fixed to it, the boom will swing down the stream daring the cbb; and, upon the flood, the boom may be re-laid, if the enemy appear in sight, which he must do at the first of the tide, for, if in the cbb, there is no danger of his coming; because, if the wind is right in, a prudent enemy will not venture against the tide, a ship then making fresh wind crewage; and should the ground, the main lie there till flood, which may prove fatal to her from the batteries ahere; and, against both wind and tide, the enemy cannot come in. On the contrary, should the boom be carried up the flood, and the enemy appear at the beginning of the next flood, the boom cannot be re-laid till the cbb, and before that time the enemy may have accomplished his design. If access can be had to plenty of timber, a “flockado” may be made, by driving several rows of piles in the channel before the boom; or, if the depth of water should not allow of this work, the trees may be usefully applied in making a raft to ride before the boom by good anchors, so that the cables be made too fail for the enemy to cut them. These rafts may be of singular use, by making fires on them, when the enemy appears, which will produce a conflagration, that may cause him to chop to anchor, and lose time, or his tide;
and this may be done each flood, observing not to have the smoke drive into the works, which might give the enemy too great an advantage.

To lay a boom in a straight channel. If the wind for the most part blow obliquely across the river or channel, on the starboard quarter going up the river, and the boom be laid directly athwart the channel, which was the case at Londonberry in 1639, when it was forced, the ships coming with the tide of flood, and a leading gale, will run fillings against it; and possibly break it, by curling with a direct force; whereas, if the boom could be laid obliquely athwart the river, nearly in a line with the wind, so that the ship must take it with her bow, the blow would be diverted by the ship's cutting, because, in this position, the enemy cannot run fillings against it; for, in coming up the river, the ship must be near before the helm; and to bring her head to a boom laid obliquely, the helm must be put down, and then it will be a great chance if he comes to so nicely as to take the boom; besides, mistakes may be committed in the confusion by the man at the helm, and by him upon the land, and by reason of the smoke; and, exclusively of all these, it may be taken for granted, that the ship would cast along-side the boom; and then the batteries at the end of the boom on the larboard side would rake it fore and aft, while the opposite batteries on the starboard side, playing on the broad-side with double-round and partridge, must make a great slaughter among the men cutting at the boom. And if it should not swining along-side the boom, but lie fillings against it, the batteries on the starboard side of the river, which are to be made above the weather-end of the boom, will rake it fore and aft, while those on the larboard side play on its quarter, or broad-side. The ships within the boom, protected by it, should be moored in a kind of half-moon, with their broad-sides blanking the boom: and several old, or, at least, unfixed ships, may be sunk, as soon as any signal is given from one of the forts, signifying that the boom will be cut. For this purpose, those ships should have large scuttles ready cut; and, for a further security, it would be very proper to have a small boom to divert the enemy, that the ships may be sunk in the channel before he boards them. The chief strength, however, is in the boom: and if a double, triple, or four-fold boom, were laid, provided materials could be procured, and the value of the shipping and cargoes warranted the expense and labour, it would make the place so much the stronger; and the enterprize of the enemy more hazardous. In stretching these booms, the trouble of many anchors may be spared, by making all the cables fall to the first, and so let them float in a hight, and by a small anchor ride upon the cbb, to keep clear of one another.

To lay a boom in the bend of a river. From the point formed by its end, stretch two booms across the channel, one towards the middle of the opposite bight, and the other so much higher, as to lie directly athwart the channel, leaving a kind of angular space between them. Next the point from whence the two booms stretch, erect a proper fort or battery, to command the channel below and above the bend. On the other side of the river, erect another fort or battery against the bight a little above the end of the lower boom, and fo dipose, that its cannon may rake the channel coming up, as well as command both the booms. From such a disposition, it is a great chance if a ship answer her helm so exactly as to time, in bearing or loosing about the point, as to take the boom fillings; and if she fit it with her bow, she calls; and, in either case, she will be raked fore and aft by one fort, and have her broadside battered by the other. Let seme old vessels be fitted up for fire-ships, and placed between the two booms; for each ship let two hawser be carried ashore, one on each side, and fixed to crabs, or capstans set up; so that as soon as the enemy has passed the first boom, these ships being set on fire, and heaved in their way, nothing can hinder the enemy's destruction. The ships to be descended may be moored in a half moon, with their broad-sides so laid as to batter the enemy when he attempts the boom. When no strong attacks by land are to be feared; the mooring of ships behind a point is well, on account of laying the boom. If the boom should be forced, which must be upon the flood, a fire-ship, instead of falling on board a boom thus moored, will, by the tide, be hurried beyond her; and if the pace be favorable to the ships moored there, it will be found impracticable to board a boom thus moored, with such a wind and tide as the enemy must have to break the boom, unless he expose his boats in carrying out an anchor to ramp over, which will be a very dangerous attempt, or some unaccountable accident intervene.

BOOM, drift, any yard, spar, &c., by which a boat may ride them on to the sea in a gale of wind, and drive to leeward. The usual method is to make fast a rope, about twice the length of the spar, to each end of it, and to the middle of the spar the boat-rope is to be bent. By this contrivance, a boat, in a gale of wind, will drive them on to the sea, and the drift-boat will prevent the sea from breaking over the boat. See BOAT.

BOOM-irons, in a Ship, are two flat iron rings formed into one piece above the other, employed to connect the booms to the yards, &c. ; the lower ring is the largest, and is driven on the yard. Some boom-irons fasten on the yards with a crotch or flasp, secured by nails and hoops.

BOOM-Tackle. See Tackle.

BOOM, in Geography, the principal place of a canton, in the department of Deux Neuthe, and district of Anvers. The place contains 3428, and the canton 14,519 inhabitants. The territory comprehends 9325 kilometres and 11 communes.

BOOM-channel. See BRANDARIES.

DOOMAZOOSE, a river of Africa, in the province of Confantina, which bounds on one side the plain, in which are found the ruins of the ancient Thubans, now Tuban; and the river Barcehok bounds it on the other side.

BOOMBANI, a town of Africa, in Ludamar, north-east of Jarra, and north-west of Benown. N. lat. 15° 10', N. long. 7° 12'.

BOOMITES, a term used by some authors to express a kind of agate, of a very remarkable brightness and transparency, which represents the figures of shrubs, trees, mosses, &c., in the manner of the Dendrice, a common mocho-fole. This is, however, very different in the degree of transparency and brightness.

BOOMKIN. See BUMPKIN.

BOOMLAND, or Lualand bank, in Geography, is the second bank from the shore, ending nearly against Nienport, on the coast of Flanders, betwixt that and Oftend. Between that and the first bank, called the Greer, a channel of eight or nine fathoms passes through. All the banks begin off Oftend, being four, and what are called the Flemish banks.

BOOMOE-Olle-Sando, a small island near the coast of Norway, 12 miles W. of Suroy.

BOOMUGGAR, a district of Africa, in the province of Confantina, which is very fertile, and bears several traces of ancient buildings.

BOON, in Ancient Geography, a port of Cappadocia on the Euxine, between Cotyora and the promontory of Jason, according to Ptolemy.—Allo, a village of Ethiopia, near the Nile, and on the west side of it.
Booingsland, in Geography, an island of America, on the coast of the district of Maine, between the mouth of York river and Cape Neddock.

Boon's Creek, a small north branch of Kentucky river.

Boon's Point, the most northerly point of the island of Antigua. N. lat. 17° 7', W. long. 63°.

Boondy, or Bonner, a town of Hindostan, in the country of Aigumere, 84 miles S. E. of Aigumere, and 65 S. S. W. of Rantamurp. The town is situated on the southern declivity of a long range of hills, which runs nearly from E. to W. The palace of the rajah, a large and finely built of stone, is about half way up; and a kind of stone fortification runs to the top of the hill. The pass through the hills lies to the end of the town, and is secured by a gate at each end. The pilgrims of the rajah of Bondee have been reduced by the irritations of the Maharras, and encroachments of the Kotha family, to the revenue of his fiefs, of which a fourth part, or chout, is paid to the Maharras.

BOONE Bay, lies on the western side of the island of New-foundland, 22 leagues N. by E. from St. George's harbour. N lat. 49° 37'.

Boonen, Arnold, in Biography, a portrait painter, was born at Dort, in 1669; and after having been for some time a disciple of Arnold Verhas, placed himself under Godfrey Schellten, who recommended him, after having received his instructions for six years, to study nature. By following this advice, Boonen obtained the reputation of a great master at the age of 25 years. His style of colouring was extremely good; the attitudes of his figures were elegantly diffused; his touch neat. The whole poss. had such a harmony, and his portraits maintained such a striking likeness, that he was ranked among the ablest artists of his time. He had a number of admirers, and a demand for works which he was unable to execute. He had the honour of painting the portraits of the czar of Moscow, of Frederick I. king of Prussia, of the viceroy of the duke of Marlborough, as well as of many of the princes of Germany, and most of the noblemen who attended the czar. His health was impaired by his excessive application, and he died rich in 1729. Pilkington.

Boonerschians, in Geography, a fortress of Groningen, on the borders of East Friesland, a league from Dollart bay: 5 leagues S. of Embden.

Booneton, a small post-town of America, in Suf{ county, New Jersey, on the post-road between Rockaway and Suf{; county hot; : 116 miles from Philadelphia.

Boonsborough, a town of America, in the county of Madison, and state of Kentucky, seated at the mouth of Otter creek, 32 miles S. E. of Lexington, and as far N. E. from Danville. N lat. 37° 57'.

Boon-Ork, or Long-Neck, in Ornithology, one of the names of the little Bittern, Ar dedication. Buff. Alp. Roopflathmus, derived from boa, an ox, and post; ox; eye, Ox-eye snake, in Natural History, a name given by Schenckner to a peculiar gate, in which there frequently appear circles of considerable size, resembling those immense animal's eye. The ground colour of the snake is grey, and the circles of a deep bluish black.

Boops, in Lxicology, a species of Sphex that inhabits Germany, in the environs of Vienna. It is of a black colour, with three segments of the abdomen, and the tarso of the legs tawny. Schrank. Inf. Auct. — Obs. The eyes are large, the abdomen ovate.

Boors, in Ichthyology, a species of Laurus, found in the seas about Japan. It is specifically distinguished by having the lower jaw rather longer than the upper one, and having two fins on the back. Houtioga a9 Haart. The eyes of this fish are very large; the teeth in the lower jaw large and acute.

Boors, a species of Sparus, of the lineated kind, found in the Japan seas. The body is marked with obscure longitudinal lines, of which the four lowest are gold and silvery. Artedi describes this fish. Geol.

Boors, in Zoology, the specific name of the Pike headed bot; Balena, boors, of Laurus. It is distinguished by having double spiracles on the snout, and a hony protrusion at the extremity of the back. Linn. This is the Jupiter fish of Anderson; the French name it la Jubarte.

The pike headed whale is a native both of the northern and southern ocean, and grows to the length of forty or fifty feet, and sometimes more. The body is round, especially towards the head, from whence it tapers gradually to the tail. The head is large, and of a somewhat lengthened form, though terminating in an obtuse tip. Before the nostrils are three rows of circular convexities, the utility of which has not yet been ascertained. Above thence is the double spiracle through which the animal ejects the water in the same manner as the other whales. The eyes are situated beyond the spiracles on each side of the head. Just behind the orbit of the eyes are the ears, the apertures of which are scarcely perceptible. In the upper jaw are numerous laminae of black whale-bone, not above a foot in length. The tongue is large, fat, spongy, and furnished with an appendage towards the throat, a kind of bough skin like an opoquon. The lateral, or pectoral fins are large, oval, entire on the posterior edge, but rounded and emulated on the front. The dorsal fin is of a fatty-cartilaginous substance; it is placed on the hind part of the back, above the vent, in a position nearly pendicular. The tail, which is horizontal, is divided into two lames, both of which are pointed at the extremity. The spines below the pectoral fins, together with the anterior part of the belly, is deeply wrinkled with a number of longitudinal plaits, or furrows, which may be contracted or dilated at the pleasure of the animal. All the upper parts of this kind of whale are of a dark brown, or black colour, obscurely marbled; the prevailing colour beneath is white, except the furrows between the abdominal plaits, which differ as the animal opens its mouth and then appear of a bright red.

This is represented as a very timid creature. There are occasions, however, in which it has evinced a considerable share of courage, such as being armed on the shore in a storm, when it has been known to defend itself with great vigour, and do no small mischief before it could be overcome. When the male has been armed with the female, of which influences do sometimes occur in the north, they will defend each other with uncommon spirit, emitting at the same time a most horrible grunting noise, somewhat similar to that of a pig when flour for killing. Its greatest enemy in its native element is the phylater microps. This species lives principally on the Balmo arcticus, the ammodytes tobianus, and on the teataceous, and other vermes. Its flesh and oil are used like those of other whales. The Greenlanders, where those animals are most frequent, call this particular kind keporkse.

Boors, in Geography, the appellation of a very numerous class of the inhabitants of Alaska, usually called simply boors, but more accurately denominated vaffal-boors, in order to distinguish them from the free boors, or free peasants. Thlese latter, though often comprehended among the boors in state papers, and in the enumeration of the people, are really of a different class, and form a kind of middle station between theburghers and the vaffal-boors. In virtue of their freedom, no man can alienate or fell them; they educate their children as they please; most of them possess immo-
moveable property: what they own cannot be taken from them, provided they duly pay their common taxes, or perform their fixed tasks of labour; nor are they under any arbitrary command, but, like those of superior rank, own no authority besides that of the general laws of the state. Among these, however, there are various gradations, as all of them do not enjoy the same degree of liberty. Some are expressly called boors, and without violation of their freedom are treated as such, though with somewhat more gentleness than vaftals. Others possess true civil liberty, and differ only by their place of abode and customary occupations from town's people. To this class belong the foreign colonists, settled here as husbandmen or farmers, so that by their occupation they are boors; but on account of the land which they possess, this appellation does not justly belong to them. To the free-peasants we may also refer the "Onondoverzi," as they are called, or one-horse owners, whose persons are free, and who possess their houses with the lands belonging to them, as real property, for which they neither perform feudal services nor give any of their products: but they are obliged to furnish recruits, to pay the pole-tax, and obrok, and they are not allowed to buy villages nor to possess vaftals as property. The kozaks, or cossacks, in all their persons and branches, the tartar tribes, the bashkirs, volgues, kalmancks, with most of the nomad tribes, and people of the steppe, possess their lands as real and heritable property, and therefore belong to the same class of free-peasants. This is also the case with respect to disbanded soldiers, who live in the country, emancipated serfs, who have either bought their freedom of their lord, or obtained it gratuitously in reward for faithful service; male-Russian boors, or boors of Little Russia, who are neither cossacks nor vaftals, but free people, and free-peasants, who belong to their land, and can neither be sold nor alienated separately from it.

The vaffal-boors, as distinguished from those we have now described, have no civil liberty: their children belong not to them, but to their manorial lord, on whose will they depend; they also, with their children, fingly or in families, may be alienated, sold, and exchanged; they possess no immoveable property, but they themselves are treated sometimes as the moveable, sometimes as the immovable property of another. These boors were originally free, but in Great Russia they became gradually vassals, or heritable serfs. They are commonly divided into three kinds; but it will be more convenient to distribute them into four classes. The first consists of "crown-boors," called vulgarly, in Livonia, public-boors; who are very numerous, and are the people belonging to the crown. It is necessary, however, to distinguish between boors whom the crown can grant away, as its real vassals, and who possess no real property, and those tribes of people who are owners of immovable possessions, and enjoy certain rights and privileges. But there are, exclusively of these real vassals, boors belonging to the crown, whom the crown cannot with propriety give away, being attached as workmen to the mines, either of the crown, or of private individuals. Most of the crown-boors pay, besides the head-money, the obrok, i.e. a sum of money for every male soul, and this is the only benefit which the crown derives from them. In some districts they do task-work, or pay of their products; or, in Livonia, they do both instead of the obrok. Among these there are some that are not only in good circumstances, but even rich; nor would they be acceptable of their vassalage, if the crown did not possess the power of granting them away. Boors of this class are mentioned under several denominations; as boors of the black plough, boors of the empire, imperial boors, petty-boors, and court-boors. In the Russian laws and ukases, the following eight distinct kinds of crown-boors are mentioned, viz. empire-boors, who belong neither to the crown, nor to the nobility, nor to the monasteries, but are members, or burgheurs of the empire; imperial boors, who belong to the monarch personally, or rather to the court; boors of the black plough, inhabiting a great part of the northern Russia, as far as Archangel; poll-boors, who are bound, in lieu of the impolts, to keep poll-boors; court-boors, whose service and tributes are defined to the support of the imperial court; monastary-boors, who formerly belonged to the monasteries, but now every where in Great, Little, and White Russia, are under the kamar-a-hofs; economy-boors, who in Great Russia were those boors who, about the year 1764, were taken from the monasteries and churches, and made subordinate to a particular college of economy, established for that purpose, but now abolished, so that the boors are under the kamar-a-hofs, retaining their former name; and petty tribute paying boors, who deliver their tribute in peltry or furs. One privilege of the crown boors consists in this, that they may buy of noblemen villages and lands, with the vassals belonging to them.

The second class of crown-boors bears the denomination of "crown-boors," who belonged formerly to the bishop, churches, and monasteries, but were taken from them in the year 1764; they are much the same with those of the crown-boors already mentioned, paying particular taxes, and enjoying certain privileges. The boors of the third class are, "boors of the mines," who can never be separated from particular mines, and can never be sold or exchanged apart, though they are transferrable with the works to another master. The fourth class comprehends "able, or private-boors," the condition of these depends very much on the humour or caprice of their lord; nevertheless, those of them who belong to wealthy lords, requiring neither task-service, nor deliveries of products, and contenting themselves with a moderate obrok, live happily, grow rich, and would hardly exchange their condition with that of many who enjoy nominal freedom. However, the dues from these boors to their lord are settled by no laws; some pay the obrok, others perform task-service, or, in lieu of it, deliver certain portions of their natural products; from others all these are demanded; but the obrok alone, where the lord is rich, is the most usual. Many take for every male head only three, others five, and some from the most opulent of the boors, twenty-five rubles, or even more. Those, who bear the work, are the private boors, who are obliged to perform task-service, in lieu of the obrok, at the mines-works of their lord, which may be at a great distance, and with respect to whom the distance is not considered. The late emperors declared it to be her wish and inclination, that vassalage should be abolished; or at least, that the condition of the boors might be ameliorated, and all oppressive abuses restrained. She actually adopted several measures for accomplishing her benevolent wishes, by instituting a regular tribunal for the boors, entirely chosen out of their own body; delivering the boors at the mines from oppression; appointing overseers and guardians to prevent every species of violence; and on every occasion recommending gentleness and humanity, of which she herself is said to have exhibited an illustrious example. Under her administration influences occurred of noblemen, who were brought to a severe account for cruelties exercised on their vassals. The most usual mode by which a vassal becomes such is, by being born of a vassal.

By the common law of Livonia, every child born of an unmarried female vassal belongs, without regard to the father, to the estate on which it is born. Peter I., however, by an ukase,
The thirteenth Geography, the Inhabitants, and the Products of various Countries, with a View to their Identification and Classification. The Rufia people, indeed, may soon become rich, as he understands the art of turning every thing to profit, and of being content with a little; for his clothes cost him nothing, being wholly manufactured at home, and with his diet, which, during the long half, is extremely meagre, he is supplied from his husbandry.

The value of an estate in Rufia is estimated principally by the number of male boors belonging to it. The national lombard, in all mortgages, which it accepts, takes the boor at forty rubles; but in the sale of an estate they are seldom or never estimated at so low a price. In the government of St. Petersburg every soul is paid for, according to the quality of the estate, from 200 to 300 rubles: in other parts of the empire the price is commonly much lower, but at present hardly anywhere under 100 rubles. On many estates the boors work three or even four days in every week for the lord. The boors enrolled to the mines have their labours affected by an edict issued in 1782; and those belonging to the crown-mines have always experienced a milder lot, as the crown is always interested in their preservation. According to the enumeration of male inhabitants, made from 1781 to 1783, in the forty one vicerealties of which Rufia at that time consisted, the number of crown boors was 4,674,003, and of private boors 6,678,239. Tooke's View of the Russian empire.

BOOSHA, a river of Africa, in the empire of Morocco, near Tetuan, where the Morocco galleys anchor and winter, under the protection of a bad fort.

BOOSURA, in Ancient Geography, a small town of the isle of Cyprus, towards the north-west, between Curtum to east, and Palae-paphos to the north-west. It is mentioned by Strabo.

BOOT, a leathern cover or defence for the leg, used chiefly on horse-back, both to keep the body more firm, and defend the part from the injuries of the weather. Boots seem to have been called thus from their resemblance to a sort of jack, or leathern bottles, formerly in use, and called botta, in the old French boots. Borel derives the name from the ancient French word bot, a stump, because the boot gives the leg this appearance.

It is not long that the boots used on horse-back have been called by this name. In the reign of Charles VII. of France, they were called bottes, boe.

The ancient monks usually wore boots; that is, the denomination of botta, or botas, was given to their slippers.

The Chinese had a kind of boots made of silk, or fine stuff, lined with cotton, a full inch thick, which they always wore at home and abroad.

There are also chirurgical boots, for the cure of varicose veins, or crooked and distorted legs.

The boot was much used among the ancients, by the foot as well as borromen.

The boot is the same with what was called by the ancient Romans, oreas, in middle-age writers, grea, gamberis, lainberga, lumbarga, or lumberta. Du Cange Lat. Gloss.
The boot is said to have been the invention of the Carians; it was at first made of leather, afterwards of brass and iron, and was proof both against cuts and thrusts. It was from this that Homer calls the Greeks brazen-booted. Plin. Hift. Nat. lib. vii. cap. 56. Homer. II. vii. v. 44.

The boot only covered half the leg, some fay only the right leg, which was more exposed than the left, and it being advanced forwards in the attack with the sword; but in reality it appears to have been used on either leg, and sometimes on both. Those who fought with darts, or missile weapons, advanced the left leg foremost; so that this only was booted. Veget. lib. i. cap. 20. Prifc. Lex. Ant. tom. ii. p. 309. and Aquin. Lex. Mil. tom. ii. p. 102.

Boots, j ebings, are a thick strong sort used in dragging ponds, and the like. Hunting-boots, a thinner kind, used by sportsmen. Jack-boots, a kind of very strong boot, used by the troopers.

The boot is now diffused in England; but it abounds still in some other countries.

Boots, Nigant, in Geography, the most westerly of some small islands, about 3 leagues on the north of Cajana, or Cayenne, opposite to the river so called, on the eastern coait of South America.

Boots, lords, a wooden cylindrical instrument, used by shoemakers for widening the leg of a boot. It is flit in two parts, between which a wedge is driven when it is put into the boot.

Boots, top, that part of the side of a ship which is contained between the light water mark and the lower edge of the wales. This part is commonly painted white, and, in that case, the flot is said to have white boot-tops. Boots, Nigant, See Boot.

Boots, Nigant, in Sea Language, the act of cleaning the upper part of the ship's bottom, or that part which lies immediately under the surface of the water, and daubing it over with tallow, or with a coat or mixture of tallow, sulphur, resin, &c.

Boots, Gerard, in Biography, of a noble family, was born at Gorcum, in Holland, in 1604. After taking his degree of doctor in medicine, he came to England, and was in such estimation for his skill in his profession, that he was made physicin to king Charles I. On the death of that prince he settled in Dublin, but died soon after, viz. in 1650. In 1650, he published "Heures de recreation," 4to. in the Dutch language; and in 1640, "Philosophia naturalis reformata," which are not however much esteemed.

Boots, Arnold, brother to Gerard, and of equal celebrity with him, was well versed in the Latin, Greek, Hebrew, and Syriac languages. After taking his degree of doctor in medicine he came also to London; but on the breaking out of the troubles here, he removed to Ireland, where he practised with success and reputation for some years. Tired at length with the hurry and confusion incident to civil commotions, and having experienced some losses, he went to Paris, and there passed the remainder of his life in retirement and study. He died in 1653. He published, in 1649, "Observations medicinae de affectibus et veteribus omniis," 12mo. Haller gives a particular account of this volume, which contains many interesting and curious observations. Haller Bib. Med. Elov Dict. Phil.

BOOTAN, in Geography, a country of Asia, occupying an interval of at least a degree of latitude, according to Mr. Rennell, between Bengal and Tibet. Tibet and Bootan are often confounded together; but the latter is a feudal, or independent province of the former, and borders on Bengal.

The capital of this southern province of Tibet is Taffaudon, in N. lat. 27° 45', and beyond this is Paridrong, supposed to be in 28° at least, though placed by the map of the Lamas in 27°. This place, and the chain of mountains near it, have been regarded as the common boundary between Tibet and Bengal; but Mr. Boyle, who was sent by Mr. Hattersly on an embassy to the grand Lama of Tibet, in 1744, affirms us, that Paridrong is the frontier town of Tibet towards Bootan, and not towards Bengal. The western limits of Bootan have not been ascertained by Mr. Turner, to whom we are indebted for a particular account of this country and of Tibet in general. From Mr. Huxley's journey to Siringapur it would seem, that the name of Bootan includes most of the south of Tibet, particularly those regions which are omitted in the doubtful map of the Lamas, who, in their account of these frontiers, use Chinese or Tartar terms, or, perhaps, invented appellations equally fictitious, as they are alike unknown to the Hindoos and the natives. Bootan is a very mountainous district. The southernmost ridge of its mountains rises near 1 1° mile perpendicular above the plains of Bengal, in a horizontal distance of only 15 miles; and from the summit, the astounded traveller looks back on the plains, as on an extensive ocean beneath him. Through this ridge there are not many passes, and all of them are fortified. The road between Bengal and Taffaudon lies chiefly over the summits of stupendous mountains, or along the borders of craggy precipices; so that it is difficult to ascertain the direct distance. Between Taffaudon and Paridrong is a chain of mountains full higher than the others; they are visible from the plains of Bengal at the distance of 150 miles, and are commonly covered with snow. These are a continuation of the mountains Emodus and Paraparnicus of the ancients; and are sometimes by the moderns erroneously called Caucasus. In the Lamas' map, they are called Rimola, and by the people of Hindostan Himmaleh. Mr. Rennell supposes them to be, in point of elevation, equal to any of the mountains of the old hemisphere. Bootan, however, with all its confused and shapeless mountains, is covered with eternal verdure, and abounds in forests of large lofty trees. The sides of the mountains are improved by the hand of industry, and crowned with orchards, fields, and villages. It has not many wild animals except monkeys, and a few peacocks. From Mr. Turner's journey, in 1783, we learn, that Bootan does not, probably, contain any metal except iron, and a small portion of copper. The climate of this province may be considered as temperate when compared with that of Tibet Proper; and yet its winters are very severe. The people of Bootan are said to differ essentially and radically from the Hindoos, and to have differ so as to resemble the Chinese; whence it may be concluded, with some degree of probability, that they belong to that grand race of men, which approaches the Tartars, though they cannot be regarded as Mandarins, Mongols, or Tartars proper. See Tibet.

BOOTES, in Astronomy, a constellation of the northern hemisphere, being one of the 48 old ones; whose stars, in Ptolemy's catalogue, are 238 in Tycho's 28; in Bayer's
Booth, Henry, in Biography, earl of Warrington, and Baron Delamer of Dunham Massey, an upright senator, and distinguished patriot, was defended from a family of great antiquity, and born in 1651. During the life of his father, he was Cuiitos Rotulorum for the county palatine of Chester, and represented that county in several parliaments during the reign of Charles II. His zeal for the protestant religion, and for the liberties of his country, was conspicuous at an early period of his life. He was active in promoting the bill for excluding the duke of York from the throne; he also made a spirited speech in support of frequent parliaments, and against governing by favourites; and he opposed, with a manly firmness, the unjust and arbitrary power assumed by the privy-council, of imprisoning men contrary to law. He was anxious likewise for preferring parliament uncorrupt; and with this view contended for an act to punish those who had received bribes from the court, as members of the parliament denounced the penison-parliament. He also spoke in parliament against the corruption of the judges, charging them with having sold, denied, or delayed justice, and recommended an inquiry into their conduct, and that those who were found guilty might receive merited punishment. His zeal against the papists, and his vigorous opposition to the arbitrary measures of the court, rendered him particularly obnoxious to the governing powers; so that he was turned out of the commission of the peace, deprived of his office, as Cuiitos Rotulorum of the county of Chester, and committed close prisoner to the tower of London, from which, however, he was after a few months released. After the accession of James II. he was twice committed to the tower; and in the beginning of the year 1686, brought to trial, under a charge of high treason. Judge Jeffries maintained, on this occasion, that it was not necessary, in point of law, that there should be two positive witnesses, in order to convict a man of treason; and that if there was only one positive witness, additional circumstances might supply the place of a second. Lord Delamer, who came to the title in 1652 by the death of his father, made an able defence; and was unanimously acquitted. From this time he lived in retirement at his seat at Dunham Massey; but when matters became ripe for the revolution, he exerted himself in the promotion of that great event. In a note to Dr. Aiken's ode addressed to the earl of Huntington, it is said, that at Whittington, a village on the edge of Scarf holy in Derbyshire, the earls of Devonshire and Danby, and the lord Delamer, privately concerted the plan of the revolution. The house in which they met is at present a farm house; and the country-people still distinguish the room where they sat by the name of the "plotting parlour." Lord Delamer appears to have been one of the first who took up arms in favour of the revolution. After he had joined the prince of Orange, he was deputed, in December 1688, together with the marquis of Habsiax, and the earl of Shrewsbury, with a message to king James, intimating to him, that he must remove from Whitehall. To the respectful manner in which he executed this commission, James bore testimony, after his retirement to France; observing that "the lord Delamer, whom he had used ill, had then treated him with much more regard than the other two lords, to whom he had been kind, and from whom he might better have expected it." His lordship, however, was fully convinced of the necessity of dethroning the king; and in a debate, relative to declaring the throne vacant, he said, that "it was long since he thought himself abjured from his allegiance to king James; that he owed him none, and never would pay him any; and if king James came again, he was resolved to fight against him, and would die single with his sword in his hand, rather than pay him any obedience." Such were his services in support of the revolution, that he was honoured with several official appointments at that period. The offices of lord-lieutenant of the city and county of Chester, and of Cuiitos Rotulorum of that county, to which he was promoted, he enjoyed for life. Lord Delamer, however, seems to have been no favourite at court; his disposition did not seem to have been formed for a pliant courtier under any establishment; and with respect to his political sentiments, he seems to have been one of those who wished for more retrenchments of the regal prerogative than were made at the revolution. But though his lordship was removed from the administration, letters patent were issued, in 1660, for creating him earl of Warrington, in the county of Lancaster, to continue to him and the heirs male of his body; and a pension likewise of 200l. per annum was granted to him, for the better support of that dignity; but it is said, that this pension was paid to him only for the first half year, and afterwards suffered to run in arrear. On the 3d of January 1692-3, the earl of Warrington signed a protest against the rejection of the bill for incapacitating perfons in office under the crown, either civil or military, from sitting in the house of commons. This patriotic peer died at London on the 2d of January 1692-3, in the 42d year of his age. He left four sons and two daughters; but his second son dying in 1759, without heirs male, the earldom became extinct. Mr. Granger says, that lord Delamer was "a man of a generous and noble nature, which diffused, upon any terms, to submit to servitude; and whose passions seemed to centre in the love of civil and religious liberty." In every part of his life, indeed, he seems to have been actuated by the same principles; and in his "Advice to his Children," printed in his works, he says, "There never yet was any good man, who had not an ardent
ardent zeal for his country.” In private life, he was a man of strict piety, and of great worth, honour, and humanity. His works were published in 1694, in one volume 8vo. They consist chiefly of speeches made by him in parliament, prayers used by his lordship in his family, some short political tracts, and the caiue of William earl of Devonshire. Biog. Brit.

Booth, Barton, an applauded tragic actor, was descended from an ancient and respectable family in Lancashire, born in 1681, and educated under Dr. Dubby at Wettinster school. Whilst he was at school, he exhibited early indications of those talents which qualified him for his future profession; as, besides his fondness for Latin poetry, he was distinguished by the grace and energy with which he recited several passages selected from it and committed to memory. Flattered by the applause which he received in acting a part in a Latin play, performed at school, he acquired, or at least indulged, an inclination for the stage; and, eloping from school, at the age of 17, very much to the disappointment and grief of his father, who designed him for the university and the church, he accompanied the manager of an Irish theatre to Dublin. On the Dublin stage he performed for three seasons with very distinguished applause; recommending himself, particularly in tragedy, by a grave countenance, good person, an air of dignity in his aspect and manner, a fine voice, and a very manly action. Besides, he spoke very justly, his pronunciation was very correct, and the cadence of his voice was extremely grateful to the ear. The theatrical reputation which he acquired in Ireland, determined him to return to London in 1701; and being recommended to Mr. Betterton, he was treated by him with kindness, and had important parts assigned to him at his theatre. After the death of Betterton, he was received into the Drury-lane company, and, by his acknowledged abilities, he rose to the highest rank in his profession, as a tragic actor. When Mr. Addison’s famous play of Cato was introduced on the stage in 1712, as it is said, with political views, and to support the cause of the whigs, the part of Cato was assigned to Mr. Booth, and it was performed so much to the satisfaction of the house, that both the wigs and Tories of that period concurred in bellowing upon him most flattering and unprecedented rewards. On this occasion, it is said, that lord Bolingbroke made him a present of fifty guineas from the stage-box, and that the managers afterwards presented him with the same donation. By the patronage and influence of lord Bolingbroke, he was associated, in 1713, to the patentees of the theatre; and for twenty years conducted himself, both as a manager and an actor, with such distinguished integrity and abilities, as to secure the uninterrupted approbation of the public. He married for his second wife, Mrs. Santlowe, a favourite actress, with whom he lived in great harmony, and to whom, in token of his affection, he left his whole fortune, which, according to his own declaration, amounted to no more than two-thirds of what he had received with his wife upon the day of marriage. At length his health began to decline; but such was the high estimation in which he was held by the public, that his appearance drew together crowded audiences, whenever the intervals of his intermission permitted him to tread the stage. But his constitution rapidly decayed, and he sunk under a complication of disorders, May 10, 1753. He was buried privately, according to his own direction, at the parish church of Cowley, near Oxford, the profound place of his former retirement, and no monument was erected to his memory. His wife, however, who survived him forty years, caused a monument to be erected in Wettinster abbey, in 1772.

As an actor, Booth distinguished himself by that solemn dignity, and rotundity of declamation, which fayed to mark distinctly the cadence and melody of the verification. Without altogether neglecting the expression of passion, his manner seemed to have been better suited to poetical and sentimental parts, such as that of Cato, and the heroes of Rowe’s tragedies, than to the highly impassioned. Cibber, however, says, that the matter-piece of Booth was Othello, a character abounding with sudden turns of passion, united with elevated sentiment and striking imagery. There, says Cibber, he was more in character, and seemed not more to animate or please himself in it than his spectators. To his Cato he gives qualified praise, and he attributes the reputation acquired by it to several temporary and accidental circumstances; but in Othello, he adds, we may see him in the variety of nature. Mr. Victor hath taken pains to do justice to Mr. Booth, in opposition to the lukewarm praise of Cibber, and to the reflection contained in Pope’s epitaph of “well-mouhted,” and in the severe illustration of it by his right reverend annotator; and yet, perhaps, Pope’s epitaph, though invidiously employed, gives a just idea of his general manner.

As a man of letters, Booth appears in a respectable light; though his indolence prevented him from exerting himself much in this way. He translated some odes of Horace, and wrote several songs and other small pieces of poetry, which were well received; and he composed for the stage a mask, entitled “Dido and Eneas.” In his private character, he was just and upright; ready to acknowledge and reward merit wherever he found it; somewhat rough in his manner, and hasty in his temper, but frank and sincere in declaring his sentiments; kind and liberal in his conduct as a manager; respectful to his parents; affectionate to his brother and sister; and polite and generous to his friends and acquaintance. He was generally esteemed by those who knew him; and his death was much regretted. Biog. Brit.

Booth Bay, in Geography, a town and bay of America, on the coast of Lincoln county, in the district of Maine, about two miles west of Penmack point. N. lat. 43° 45’. The bay stretches within the land about 12 miles, and receives two small streams. On it is a town, having 997 inhabitants.

BOOTIA, in Botany (De Neck). See Saponaria Officinalis.

BOOTY, in the Military Art, the moveables taken from an enemy in war, which belonged to the conquerors. Among the Greeks, the booty was divided in common among the army, the general only claiming a larger share. The right of making a distribution of it was always considered as one of the prerogatives of the general. During the Trojan war, it was laid at his feet; one part he reserved for himself, and divided the remainder either among the chiefs or the soldiers. As soon as a victory was obtained, the armour was seized by the conquerors, or great commanders; and the common soldiers were permitted to gather the spoils of the dead. Homer, II, 428, § 66.

The Lacedemonians were forbidden to meddle with the spoils of the conquered; and the Spartans had always 300 men appointed to observe their actions. Inquests, however, occur of their dedicating part of their booty to the gods. When any booty of great value was taken, the soldiers presented their general or commander with it; but before the distribution of the spoils, they selected the best as an offering to the gods. Eight hundred years after the Trojan war, the generals regulated the partition of the spoils taken from the Perians, after the battle of Platea. They were shared among the soldiers, after setting apart a certain portion to decorate the temples of Greece, and decreasing proportional rewards.
words to those who had distinguished themselves in the action. From that time, the Grecian general disposed of the sums arising from the land of plunder; sometimes deducting them in the public treasury; at other times assigning them to defeat the expense of public works, or the decoration of temples; enriching them friends and soldiers with them; adding them to their own wealth; or at least appropriating them to themselves the third part, which in certain countries was regularly assigned them by constant usage. Polyb. 11. 18, p. 147.

By the military discipline of the Romans, spoils taken from the enemy belonged to the republic; particular persons having no right to them. The generals who procured themselves on their probity, carried it wholly to the public treasury. Sometimes, indeed, they divided it among the soldiers, to animate them, and serve in lieu of reward. But this distribution depended on the generals, who were to conduct themselves herein with great equity and moderation; otherwise it became a crime of peculation to lay hands on the spoilage, as regularly belonging only to the state. The confts Romulius and Veturius were convicted for having sold the booty taken from the Æquin. Liv. ib. iii.

Among the Jews, the booty was divided equally between the army and the people, though under the kings a different kind of distribution obtained. Num. xxi. 47.

Among the Mahometans, two thirds of the spoils are allowed to the army; the other third to God, to Mahomet, and his relations, and to the orphans, the poor, and the pilgrims. Calmet. Dict. Bib. tom. i. p. 321.

Among us, formerly, the booty was sometimes divided among the soldiers. If the general be in the field, every body takes what he can lay hold on; if the general be absent, the booty is distributed among the soldiers, two parts being allowed to the cavalry, and one to the infantry. A captain is allowed ten shires, a lieutenant fix, and a cornet four. See Prize.

BOUROU, in Geography, an island near the east coast of Orthee.

BOPAL, or BOPALTO, a town of Hindostan, in a district of the same name, in the country of Malwa; placed by Mr. Rennell in N. lat. 23° 14'. E. long. 75° 38'. The town is extensive, and surrounded with a stone wall; the streets are wide and straight. On a rising ground, to the south-west of the town, is a fort called "Futteh-gurh," newly erected, and not quite finished. It has a stone wall, with square towers, but no ditch. The spot on which it is erected is a solid rock. To the south-west, under the walls of this fort, is a very extensive tank or pond, formed by an embankment, at the confluence of five streams issuing from the neighbouring hills, which form a kind of amphitheatre round the lake. Its length is about six miles; and from it the town has the addition of "Tal" to its name. These hills, and others in the neighbourhood, contain a soft, free stone, and a reddish granite, the latter of which seems well fitted for buildings that will resist water, and the injuries of the weather; and it is accordingly used in the new embankment which is building at the east end of the lake. From this part rises the small river "Patare," and it is said that the "Betwah" takes its rise from another part of the same. The town and territory of Bopal are occupied by a colony of Patans, to whom they were assigned by the Mahrattas; but a handsome present is occasionally sent to conciliate their friendship. The people seem to be happy under their present government; and the Dewan, by his hospitality, and the protection afforded to strangers, has introduced the caravans, and travellers in general, to take this road between the Deccan and Hindostan. Asiafie Researches, vol. vi. p. 31.

BOPPART, or BOFARAD, an ancient town of Germany, in the circle of the Lower Rhine, and lower electorat, once imperial, seated on the banks of the Rhine, and formerly belonging to the archbishop of Trieres. Since the French revolution, it is the chief place of a canton, in the department of the Rhine and Meffic, and in the district of Coblenz, from which it is distant 8 miles south. The place contains 2220, and the canton 7232 inhabitants. At this town a toll used to be exacted of vessels which passed along the Rhine. Near the river the town is surrounded by high mountains, the summits of which are richly covered with woods; and when the foliage appears on the trees, the country about it forms a scene truly picturesque and extremely luxuriant. On a mountain behind the town was a Benedictine nunnery, called the Abbey of Marnenberg; and besides this, there were a convent of Carmelites, and another of Franciscans, in very romantic situations.

BOPPINGEN, an imperial town of Germany, in the circle of Swabia, and county of Oettingen, on the Egger; 5 miles west of Nordlingen, and 28 N.N.E. of Ulm.

BOPQUAM, or M'Quam bay, lies on the east side of lake Champain, in Swantown, Vermont, and has Hog island on the north at the mouth of Michicouci river.

BOQUET, a river of America, which passes through the town of Wallborough, in Clinton county, New York, and is navigable for boats about two miles, and there interrupted by falls on which are mills.

BOQUINEN, a township, in Spain, in Arragón; 18 miles N.W. of Saragossa.

BOQUINII, in Ecclesiastical History, a sort of Sacramentarians, who adhered to the body of Christ was present only in the eucharist to those for whom he died, that is, the elect. They took the denomination from one Boquinus, a Lutheran divine, who was one of the chief of the party.

BORA, in Ancient Geography, a mountain of Macedonia, mentioned by Livy, between Illivia and Epirus.

BORÉTA, a town of India, placed by Ptolemy on the other side of the Ganges.

BORBèASSOU, in Geography, a town of the island of Celebes, where are manufactures of cotton and silk stuffs.

BORACIC ACID. Acide Boracique, Boroxique. This substance was first discovered in 1752, by Hombreg; who, by mixing together in a subliming vessel a mixture of borax and fulplatin, obtained a white crystalline salt, which from its supposed medical properties he named volatile narcotic salt of vitreus, or delusive salt. The term boracic acid was appropriated to this salt by Lavosier and his associates, at the general reformation of the chemical nomenclature.

Boracic acid may be prepared in two ways: either by sublimation or precipitation. The best method of obtaining it, according to the former of these processes, is as follows:

Take two parts of purified borax reduced to a fine powder, and mix it with a glass alembic with one part of sulphuric acid previously diluted with an equal weight of water. On the application of a gentle heat, the borax will dissolve; and at a boiling temperature, there will first arise an acridulous water, and afterwards, when the mass in the alembic begins to grow thick, a light, white, glittering micaceous salt will collect in the capital, which is the boracic acid. As this salt sublimes only while the last portions of moisture are evaporating, it is necessary to return back the acidulous water repeatedly upon the mass in the alembic, in order to obtain the whole of the boracic acid; but this being a tedious operation, and generally terminating with the fracture of the
the alembic, is at present but little practised. The most expeditious and economical way of preparing the boracic acid, is by precipitation; for this purpose, take a boiling hot filtrated solution of purified borax in water, and add to it, by a little at a time, so much sulphuric acid as to make the solution slightly acidulous. The liquor, when cold, will be found to have deposited a considerable quantity of thin crystalline plates of boracic acid, and more may be obtained by successive evaporation and evaporation, till crystals of sulphate of soda begin to make their appearance. The sulphuric acid is on several accounts preferable to any other for the decomposition of the borax; yet the nitric, muriatic, or even the acetic acids may be made use of, and will effect a separation of the boracic acid from the soda with which it was united in the borax. The proportion of acid obtained by precipitation amounts, according to Beauné, to nearly one half of the borax made use of; and it is this kind of boracic acid that has been used by most chemists in their experiments on this substance. The precipitated acid is, however, by no means pure, as it retains, according to Cadet, a portion of the acid made use of in its precipitation, and confits, according to Beauné, of about

56 boracic acid
14 an impure unsublimable sal
30 water of crystallization
            100

Sublimed boracic acid is in the form of very minute thin plates, with a shining silver lustre, and remarkably voluminous in proportion to its weight. The crystallized acid has the same general appearance, only it is in larger plates, and of considerably greater specific gravity.

The taste of boracic acid is slightly subflaible; it reddens syrup of violets, but exhibits very feeble acid characters. It is very difficultly soluble in cold water, and requires a considerable proportion of hot water; as the hot solution cools, it deposits in crystalline plates nearly the whole of the acid which it had taken up. Alcohol takes up a larger quantity of this salt than water does, and burns in consequence with a green flame. On this account boracic acid has been supposed by some chemists to contain copper. But if a piece of paper is dipped in the alcoholic solution, and then dried, it will burn with a deep yellow flame; hence it is obvious, that the green tinge in question is only caused by a mixture of the yellow flame of the boracic acid with the blue one of the alcohol.

When boracic acid is heated to redness in a silver crucible, it becomes first of a pally consistence, and then melts into a tenacious glass perfectly colourless and transparent. By exposure to the air, this glass becomes opalescent, but does not undergo any other change; it is soluble in water, and may be obtained, by cooling and evaporation, in the late of crystalline plates as before. When fused in an earthen crucible, it dissolves some of the earth, and forms a semi-transparent glass considerably less fusible than the pure acid; and when dissolved in water, and evaporated, it becomes a gelatinous mass, superficially covered with a few crystals of boracic acid.

Neither the oxygenating nor deoxygenating processes appear to have the smallest effect on this acid; and all attempts to raise it to a higher degree of oxydation, or to decompose it, numerous as they have been, have not been attended with the smallest success. It unites in the moit way by single affinity with the caustie alkalies, and by compound affinity also with the earths and metallic oxides; its attraction, however, is so feeble, that it is incapable, when in solution, of dislodging even the carbonic acid from its basis. But weak as boracic acid is in the moit way, its fixity in the fire enables it to separate, in a high heat, the sulphuric, nitric, muriatic, and all the other volatile acids from their bases, forming with them a genus of salts called borates, none of which, except the sub-borate of soda, or common borax, has hitherto been made the object of chemical investigation.

Boracic acid, besides being obtained from the decomposition of borax, is also found native in certain hot springs and lakes in Tuquany. It is not applied to any medical, chemical, or economical use.

Boracite, Borax, Muriatia; Magnesia boracite.

Flavy. The colour of this mineral is yellowish, smoke or ash-grey, passing into greyish or greenish-white. It occurs in small cubic crystals truncated on the angles. The crystals are for the most part opaque, some are semi-transparent, and a few of the smallest are entirely transparent. Their lustre internally is considerate, and of the vitreous kind. The fracture is flat, thin conchoidal, passing into uneven and splintery. The crystals are often corroded more or less, and then are easily pulverizable; but when perfect, they are hard enough to give brilk and lively sparks when struck against the flint. Sp. gr. 2·56.

The borates, when exposed to a full red heat, becomes opaque, and loses about ½ per cent. of its weight, but undergoes no other change; when intensively heated in a clay crucible, it runs into a yellowish glass. It is entirely, though with difficulty, soluble in the muriatic acid by long digestion. According to the analysis of Weltrum, it consists of

| 68 boracic acid | 1·5 magnesia |
| 11 lime | 0·75 oxyd of iron |
| 2 filex | |
| | 96·85 |

Some later experiments, however, of Vaquelin make the proportion of lime to be much smaller; and it appears probable, that the only essential ingredients of this mineral are boracic acid and magnesia.

Boracite is found near Luxemburg, in the duchy of Bruns-wick, lying the sides of a vein in a hill of sulphat of lime. The crystals from their shape were known in the neighbourhood by the name of wurlfepth, or cubic spar, and were supposed by some mineralogists to be a variety of quartz. The presence of boracic acid in them was not suspected, till the analysis of Weltrum, published in 1788, in the Transactions of the Society Nat. Curios. Emmerling. Flavy. An. de Chim. v. 11.

BORAGE, in Bot. See Borago.

Boraginee, the ninth order of the eighth class of Jussieu, of which he gives the following natural character. Calix five-parten, permanent. Corolla ino communly regular. Stamens generally five. Germ simple, or four-lobed. Style one. Stigma either bifid, furrowed, or simple. Seeds four, or four-fined, either in a capsule or a berry; or else apparently naked, obliquely attached to the style, and for the most part enclosed in the permanent calyx. Corolla without a peripetal. Stem in most herbaceous; in a few, a shrub or a tree. Leaves alternate, often rough.

The genera are thrown into five divisions. 1. Fruit, a berry; stem, a shrub or a tree. Patagonia, cordia, cheritia, menas, varonm, tournerfortia. 2. Fruit, one or two-capsular, herbaceous. Hydrophylhum, phacelia, ellipta, dicchondra?
Fruit, the hemiflom foliages flowers consiiderable Nat. (harp small cool flowers and dried filaments foot calyx peduncles fallad. B. B. tolioles Schreb. 187. Alked to the boragine; herbaceous. Nolana, sponmomatus? folkia, the connecting link between the boragines and convolvuli.

La Marek (Encyc. Method.) gives the boragine a charac which belongs almost exclusively to the asperifolius of Linnzeus. He has only three divisions: 1. Four germs, or one, four-parted; the proper asperifolius. 2. Five germs, or one with five divisions; nolana, monieria, raputus. The natural situation of the last two was left undetermined by Julieu. 3. One undivided germ; comprehending the first and second division of Jullien. He has placed this division last, appreheing, and surely not without reason, that it ought to form a distinct order between the boragines and convolvuli.

The boragine compose the twelfth family of the eighth class of Venterat, in his "Tableau du regne vegetal." It contains only the asperifolies, with the Linnomar characte except that, in concurrence with Gartner, the fruit is consi dered as consisting of two or four nutts; in the former case each two-celled and two-feaded; in the latter, each one-celled and one-feaded; the seeds attached either to the inner edge or base of the nut by a filiform or capillary peduncle or placenta.


Gen. Char. Cal. perianth five-parted, permanent. Cor. monopetalous, wheel-shaped; border one-parted, flat; legmen acute; throat crowned with five emarginate, obtuse prominences. Stam. five, awl-shaped, converging; anthers oblong, fixed to the inside of the filaments in the middle, converging. Pk. germs four; style filiform, longer than the flamenta; stigma simple. Pericarp none; calyx larger, inflated, containing the seeds. Linn. Schreb. La Marek, Jull. Pericarp, nuts four, boney, ovate, a little compressed, slightly convex on one side, smooth, shining, light chesnut, obolutely angular, marked with a longitudinal furrow in the middle, and with parallel, transverse wrinkles, imperforate, one-celled, without valves. Sdtl solitary, ovate-acuminata, almck black. Gxrt.

Eff. Char. Cor. wheel-shaped; border spreading, acute; throat clofed with rays.

Species, 2. B. officinaris. Eng. Bot. 36. common borage. "All the leaves alternate; calyces spreading." Linn. Root long, fleshy, tender, white, fibrous; stem about a foot and a half long, branched, hollow, fusculent, cylindrie; leaves alternate, large, oval-lanceolate, obtuse, wrinkled, deep green, and, as well as the stem, rough, with sharp, rigid, white bristles, the lower one petiolar, the upper seflile; flowers terminating on branched peduncles, blue, flesh-coloured, or white; calyx and corolla divided to the base; tube short and white; filaments short, white, springing from the claws of the petal, with a sharp blue process, where the dark purple or blackish anthers are inserted. Said to have come originally from Aleppo, but now naturalized in many parts of Europe, and not uncommon in the neighbourhood of Lon-
don on dunghills and among rubbish, where it is scaredy more than baccal. It was formerly cultivated in gardens, on account of the foppied cordial virtues of its flowers, but they have long lost their reputation, having neither warmth, pungency, nor any other indication of active qualities. Its flowers, stem, and leaves contain an inruidious viscious juice, which, on being boiled a considerable time, forms crystals of nitr. A clarified syrum formed from it is prescribed by the French physicians in pleuritics, and other disorders which require a cool treatment. In Italy its young and tender leaves are in common use, both as a pot-herb and a spoilad. In France its flowers, with those of nallcrum (trquxulum), are put into salads as an ornament. In England the flowers and upper leaves are used as an ingredient in that summer beverage composed of wine, water, lemon-juice, and sugar, called a cool tankard, to which they seem to give an additional coolness. 2. B. indicus. "Leaves of the ramifications opposite, embracing the stem; foliolas of the calyx fipegittate." Linn. "Pedicules one-flowered." Miller. An annual plant, rarely rising a foot high. Stem branching, rough, with small, white, fibrous hairs; leaves lanceolate, rugged, only the lower ones opposite; flowers axillary, shorter than the leaves; foliolas of the calyx five-angled, hilpud, expand ing at the base into two remarkable sharp-pointed arocles; corolla white, pale-blue, or flesh-coloured, with five rufi coloured spots. A native of the Eaf Indies. 5. B. africana. "Leaves of the ramifications pediculate; foliolas of the calyx ovate, acute, erect." Linn. "Pedicules many-flowered." Mur. Whole plant hilpud, with ifff, fragil, brillles, seven or eight inches high, more branching than B. indicus. Leaves large, ovate, and opposite; floral leaves small and alternate; corolla small, blue, yellow within, with five purple spots; peduncules terminating, divided, and almost maced; foliolas of the calyx entire. Native of the cape of Good Hope, cultivated by Mr. Miller in 1759.

4. B. zeplanta. "Leaves of the ramifications fertile; peduncules one-flowered; calyx without ears." Linn. Mant. Stein hilpud, branching, about a foot high; leaves of the stem opposite, lanceolate, hilpud; of the branches alternate, more numerous, smaller, and more acute; peduncules axillary, filiform, solitary, longer than the leaves; calyx the length of the corolla, erect. A native of the Eaf Indies. 5. B. longifolia. Poiret. Barbary. "Leaves linear-lanceolate, filicile, alternate; calyx very hairy at the base." Wild. Alhed to the foregoing, but insufficiently distinct. Segments of the calyx entire, without ears. A native of Barbary. 6. B. orientalis. "Calyxes shorter than the tube of the corolla; leaves cordate." Linn. Petiolat; peduncules many-flowered; flamen longer than the corolla, hairy. La Marek. Root large, fleshy, black without, whitish within, full of an inruidious viscious juice; stem more than two feet high; root leaves large, on long peduncles, cordate; item leaves alternate, small, ovate, on membranous petioles, channelled at the base; flowers axillary, and terminating, panicked; tube of the corolla longer than the calyx, white, bordered white, reflexed. A native of the country about Constantiople. 7. B. ortica. "Calyxes the length of the tube of the corolla; leaves ovate." Willden. Taken up from Tunisia, cor. 6, and described from a dried specimen. Segments of the calyx ovate rhomboidal, very entire; flowers red.

Preparation and Culture. The first is a hardy annual, which will bow its own seeds, and come up without care. The seeds of the second, third, and fourth should be bow upon a hot-bed in March, and the plants should afterwards be separately planted in a small pot, with light earth, and plunged in a new hot-bed; in hot weather they should be allowa
allowed a good deal of air. The fifth is a perennial, easily propagated by the root, which may be parted in autumn, and planted in a dry and warm situation.

BORAGO (Morin). See Cynoglossum ovahalodes.

BORAH, Lat. Boraxna, in Geography, a town of Sweden, in the province of Upsala, situated in a mild and mountainous country, on the river Wilka. It was founded by Gustavus Adolphus, and in 1622 endowed with several privileges. Its inhabitants are a sort of itinerant pedlars, who deal in linen, and traverse the kingdom for this purpose. This town was destroyed by fire in 1723; but was afterwards rebuilt, and continues in a good condition. It has a spring of medicinal water; and has the forty-third vote in the diet.

BORAK, among Mahometans, a fabulous animal, supposed to be of a middle kind between an ass and a mule, wheron the prophet was carried in his nocturnal flight from Jerusalem into the Heavens.

This animal the Arabs called Al Borak, q. d. shining. The night when the journey was performed is called Lailat al Meera, i.e. the night of apparition; and the flight itself Al Mefra, concerning which there is a multitude of traditions.

BORANA, in Entomology, a species of Tortrix that inhabits Sweden. This is of a large size, with the head cinereous, and thorax fuscous. Fabricius, who describes it in his Mantissa, thus defines it specifically: wings varieed with cinereous and fuscous, with elevated scattered dots.

BORANI, in Ancient Geography, a people of Scythia, who, after having inhabited the borders of the Danube, passed the Cimmerian Bosphorus, under the emperor Julian, and established themselves in Asia.

BORANO, CAFE, in Geography, lies near the N.W. extremity of the large gulf of Venice, and forms the N.E. point to the cluster of islands that impede the entrance into that city. N. lat. about 45° 16'. E. long. 12° 30'. An island of the same name lies within the cape.


Female on a distinct plant, carippa, Rheede. Cal. spateus and spadix as in the male; perianth proper, three-leaved, permanent; leaves roundish, obtuse. Cor. petals three, roundish, permanent; in La Marec’s figure exactly similar in form and size to the leaves of the calyx. Pist. germ roundish; stamens three; small; stigmas filiform. Petals, drooping, roundish, obtuse, rigid, one-celled. Seeds three, sub-ovate, compressed, dithecate, filamintose.

Species, B. tubelliformes. La Marec Illust. Pl. 898. "Frons palmate, cowled; flutes farrata." Linn. A tree twenty five or thirty feet high; two feet thick at bottom, and one at top. Trunk, bark of a dark colour; wood dark rufous red, with a felt pith in the middle; fronds about eight, decussate (umbellate, La Marec), at the top of the trunk; little near fix feet long, round, and near a span in breadth below, flat, somewhat concave, and not more than a palm above, rough with spines along the edges. The leafy part large, widely expanded, folded like a fan, and used as such in its native countries; at the edges of the folds, furnished with prominent rough ribs; glistening at the extremity; of a dense and thick texture, frilidated lengthways with close veins; fruit size of a child’s head; extended rided or fluted, when ripe, blackish and fluting near the calyx, longitudinally frouted with furrows and yellow greenish yellow above, containing a dense pulp, at first soft and white, afterwards filamentous and succulent, of a sweetness not unpleasant to taste, and strong smell. In the pulp are separately embedded two or three oblong flat nats, with a thick woody shell, containing, when young, a blue, glabrous, excentric kernel, of a sweet, pleasant flavour, which finally becomes too hard to be eaten. Ray Hill. Plant. A wine and a tanger are made from the sap of the tree. Native of the East Indies.

BORAX, in Chemistry, sub-borat of soda.

Borax is a saline substance, which has hitherto been found only in Tibet, an extensive mountainous district to the north of Hindustan. According to the most authentic recent accounts, especially the report of Mr. Saunders, who visited Tibet, in company with Mr. Turner, in the year 1838, borax is procured from a mountain lake, fifteen days’ journey from the capital of Tibet. This lake is surrounded by rocky hills, and is entirely supplied by springs, no stream either falling into it or flowing from it. The water has a faint savour, and contains both borax and common salt; and, on account of its elevated situation, is frozen for a great part of the year. The edges and shallows of the lake are covered with a detritus of borax, which is dug up in considerable mlasses, and the holes thus made are gradually filled by a fresh deposition; from the deeper parts of the lake, rock salt is procured. The borax, in its rough flake, is called tetrac, and is brought to Europe in the form of a brownish grey impure amorphous salt, or in detached crystals, about an inch in length, of the form of compressed hexahedral prisms.

The purification of borax is an art which was first appropriated by the Venetians, afterwards passed to the Dutch, and is now practised in great perfection by some English chemists. The process is as yet kept a secret, but in all probability consists of calcination and fusion.

The crude borax is often covered with an oily or greasy matter, to prevent it from efflorescing, and, on this account, is not easily acted on by hot water. It appears, however, that by exposing the tetrac to a calcining heat, lower than its point of fusion, the greasy may be burned off, and other inflammable impurities may be got rid of; the residue being then reduced to a fine powder, and digested in boiling water, the saline parts will be dissolved, leaving most of the impurities behind. The further completion of the purification is probably effected by the common clarifying sublimes, and repeated fusion and crystallization.

Borax, when quite pure, is in colourless crystalline masses, very slightly efflorescent on exposure to the air. Its sp. gr. according to Kirwan, is 1.74. Its taste is somewhat sweeter, and more alkaline. It turns syrup of violets green; flowing, therefore, an excess of alkali in its composition. It contains, according to Kirwan,

- 34 boracic acid
- 17 soda
- 47 water of crystallization

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Borax, when exposed to a dry heat, speedily dissolves in its water of crystallization; it then, as the moisture evaporates, becomes of an opaque white colour, and a voluminous fenny texture, like burnt alum. If the heat is increased to a moderate redness, it liquefies, and when cool, appears as a colourless transparent glass. If poured out of the crucible in order to cool, it should be transferred, as soon as it becomes solid, to a covered bottle, or other proper vessel, for it always cracks.
Biurax, the leaves of his Borax employed, retaining otherwise globlely, but life, Schreb. parts the Borax certainly point flowers the separate peduncles more Linumus their leaves anthers Borax, but it is termed Hems authors flowers Junct. tranparency, In their portion leaves lligma a lanceolata foliation, brightly the it by the crack it, ceufs evaporation weight it fo liorax of earths, soluble use accounts, so glasss same perfeftly charges different reasons, it acquires appearing of chaledony, on account of the partial effulgence that it undergoes. If made in a silver crucible, or if hastily melted in an earthen one, it is perfectly resoluable in water; but when kept fluid for a long time in a common crucible, it diffolves a portion of the earth of the vessel, and becomes little, if at all, soluble in water.

Crystallized borax requires twelve parts of water at the common temperature for its solution, but only six parts of boiling water; it therefore deposits crysftalls by mere cooling. Borax is decomposable by all the mineral and vegetable acids when added to excess, the boracic acid being separated, and the soda uniting with the other acid; but if only the excess of soda is combined with the other acid, the whole, by evaporation and cooling, forms a confusedly crystallized mass, consisting of the three ingredients in mutual combination. Borax will also diffolve and combine with nearly half its weight of boracic acid, forming borat of soda. In this salt the acid and alkaline parts completely saturate each other, so that it produces no change on fyrup of violets, neither does it possess any longer an alkaline taste; it does not effulference like common borax, nor are the forms of its crysftalls the fame. The affinity of soda for boracic acid is not so great as that of harytes, frontian, line, and magnetia. Thee alkaline earths, therefore, decompose borax; the pure alkali remaining in solution, and the earthy borats forming persistent insoluble salts. Potash is also capable of decomposing borax; but borat of potash being very soluble in soda, no precipitation takes place.

Silica and alumine combine in the dry way with borax, the former into a transparent, the latter into an opaque glass. If the ingredients are in nearly equal proportions, the glass is insoluble in the mineral acids; but if a considerable excess of borax is employed, the refult is a soluble glass. Of this circumstance Dr. Chevenix has ingeniously taken advantage by sublimating borax for caulsot potash in the analysis of the more refractory flowy compounds, the use of the former salt being more convenient, on many accounts, than of the latter. Borax will also diffolve most of the metallic oxides, receiving from each peculiar tinges of colour.

The uses of borax are considerable; it is employed in the laboratory as a very active flux, and as producing a more perfectly limpid fusion than any other substance. For the same reason it is an ingredient in some of the finer kinds of glases; though its dearness prevents its from being employed so often as it otherwise might be to great advantage. Borax is also highly useful to the jewellers and goldsmiths, as a flux for the solder, by which pieces of gold and silver are cemented together; and in the East Indies it is employed in the most way as a solvent for gum lace.

BORJEITONAGUS, in Ancient Geography, Worms, a town of Germany, according to Ptolomy, who says, it belonged to the Vangiones. It was their capital. See Worms.

BORBO, in Geography, a river of Piedmont, which discharges itself into the Tanaro at Atli.

BORJONIA, in Botany, (in honour of Galton Bourbon, duke of Orleans,) a name first given by Plumier to plants of different characters, afterwards transferred by Linnaeus to a genus in his class diaphylia decandria, which is obscurely defined, and concerning which there are in authors much confusion and inconsistence. La Mark says, that it differs from genista, only in having the segments of its calyx a little longer and sharper, which is falsely a flight and indeterminable circumstance; and from afpedathus, in not having its leaves fisculated, which is certainly no generic character at all. He follows Linnaeus, however, in keeping these three genera distinct, but unites it with liparia, from which he finds no reason to separate it. Linnaeus attributes to it only nine flumes, all united, and oblong; that liparia (a genus formed by him, late in life, from Thunberg's plants, collected at the cape of Good Hope) differs from it in having a tenth separate flumes. Boce says, that the borbonia has either nine or ten flumes, eight or nine of which are united at their base. La Mark, without noticing Linnaeus's distinction, ascribes to his united genera ten diadephous flumes; but it ought to be remarked, that all his descriptions are confusively made from dried specimens, and Boce informs us that none of the flowers are now cultivated in the Paris gardens. In this state of uncertainty we shall follow Willdenow in retaining the Linnaean distribution. Linn. 847. Schreb. 1165, Wilden. 1329. Jaff. 845. Nat. Ord. Papilionaceae-Leguminosea. Jaff.

Gen. Char. Cal. perianth one-keafed, semiisquinqued, turbinate, half the length of the corolla; segments lanceolate, acuminate, rigid, pungent, nearly equal, the lower one the longest. Cor. pentapetalons, papilionaceous, bifurc from the outside, banner reflexed, obtra, claw the length of the calyx; wings semicordate, a little shorter than the banner; keel two-petalled, lanulate, obtuse. Stam. filaments nine, united into a cylinder, defilute-linil longitudinally above, rising at the end; anthers small. Pift. germ subulate; style very short, ascendent; stigma obfine, emarginate. Pericarp. legume roundish, acuminate, one-celled, mucronate with fr. Sciol kidney-form.


Species, 1. B. ericifolia. Linn. "Leaves nearly linear, acute, villose beneath, heads terminal." A small, rather villose shrub; leaves alternate, pointed, nervebs and smooth above, villous and channelled beneath; flowers yellow, small; legumes very villos beneath. Its specific name is not a happy one. 2. B. trinervia. Linn. "Leaves lanceolate, three-nerved, very entire." Flowers yellow, terminating each on a separate peduncle. 3. B. angustifolia. La Mark, with a doubt whether it may not be trinervia of Linnaeus. "Leaves narrow-lanceolate, five-nerved, smooth; legumes oblong, pedunculate." A small shrub; leaves slender, interruptedly angular; peduncles two or three at the end of each branch. 4. B. barbata. La Mark (Illust. t. 619). "Leaves lanceolate, many-nerved, close-set, ciliate-bearded, very acute; flowers villous, subfalcate." Stem cylindric, with diverging branches; leaves imbricated, embracing the stem at their base. 5. B. ciliata. Willden. "Leaves cordate, embracing the stem, obtuse, many-nerved, very entire, ciliate." Stem cylindric-smooth; leaves an inch long, deeply cordate, ciliate at their margin, with long. flender hairs. Nearly allied to the foregoing, if it be more than a variety. 6. B. lanciata. Linn. "Leaves lanceolate, many-nerved, very entire." 7. B. cordifolia; La Mark, who affirms that Linnaeus's synonyme to lancifolia belong to this species. "Leaves cordate, many-nerved, very entire, smooth; flowers tomentose, sub-falcate." Branches villose; leaves terminated by a thorny point, crowded; segments of the calyx with thorny points; flowers covered externally with a white and silky down; banner brown within. S. B. crenata. Linn. "Leaves cordate, many-nerved, toothed." Stems with triangular, smooth branches; leaves falcate, or a little embracing the stem, rectilinearly veined, ending in a point; flowers smooth, pedunculate, three or four in a kind of raceme at the extremity of each branch; bracts cataceous. 9. B. puri/ orange. La Mark.
March. "Leaves cordate, many-nerved, smooth, a little toothed; flowers small, sessile, terminating." Branches smooth and angular; leaves sessile, acuminate; flowers two or three together; calyces smooth, with pointed, not spinous teeth; bracts lanceolate. 10. B. perfoliata. Willd. (La March Illust. pl. 679). "Leaves embracing the stem, very entire." Thun. Branches cylindric, angular towards the end, with scattered hairs; leaves alternate, nerved, veined, denticulate, smooth, terminated by a short point which bends outward, almost perfoliate, terminating; flowers four or five together in a kind of umbel, peduncled; segments of the calyces very sharp-pointed; bracts lanceolate. 11. B. nudata. Willd. "Leaves embracing the stem, waved with a reflexed point." All the species are natives of the cape of Good Hope.

Propagation and Culture. Mr. Miller succeeded only by laying down their young shoots, which are commonly two years before they are fit to be separated from the old plant. The best time for laying them down is the beginning of September. B. crenata was introduced into Kew garden from the Cape in 1774, by F. Masson.

BORBONIA, Levigata, and Tomentosa. See Liparia.

BORBONIA, (Plumier). See RHUS, Metopium, and Heisteria Coccinea.

BORBONICA, A. in Astronomy, a denomination formerly given by some writers to the solar faculae, on a supposition that they were satellites, or secondary planets. See Faculae.

Fromandus mentions a Frenchman, named Tarde, who had written a book express under the title "Altra Borbonia." Phil. Trans. No. 330, p. 287.

BORONICA, in Ornithology, a species of Motacilla, of a greyishfuscous colour, beneath a yellowish forbid grey; quill and tail-feathers brown, edged with grey. This is the fecunda borbonica of Brilhon. Buffon calls it petit sennons, and figurer de l'île de Bourbon. It is the Bourbon warbler of Latham. Inhabits the islands of Bourbon and Madagascar.

BORBONICUS, a species of Turdus, of a cinereous olive colour; crown black; abdomen and vent olivaceus yellow; tail fuscous, with two oblate bands near the tip. This inhabits the Isle of Bourbon. Its length is about eight inches; beak and legs yellowish; abdomen in the middle white; quill-feathers brown, edged with reddish. This is the Bourbon thrybus of Latham.

BORORITAE, or Bororiani, in Ecclesiastical History, a branch of the ancient Goths, in the 11th century, who, to the other errors of that sect, added this, of denying a future judgment. Their name is derived from geopones, filii, on account, as it is said, of a custom they had of be-mearng their faces and bodies with it. Epiphani. Hered. 25, an. 26. Auguf. de Hered. c. 5.

Some also have given this appellation, by way of reproach, to the Mennonites.

BORBORUS, in Ancient Geography, a river of Macedonia, which, according to Plutarch, encompanied the city of Pella.

BORBORYGMUS, in Medicine, a term employed to denote the rumbling noise produced by air pent up in the intestinal canal; from σφόγως, σφόγγος, σφόνγγος. It is a common symptom in cafes of disordered bowels.

BORBOTHA, in Ichthyology, a name given by some writers to the eel pout or burbot, gulas lutus, or, as Willughby names it, mullusca fluviatiles.

BORCANI, in Ancient Geography, a people of Apulia, according to Pliny.

BORCETTE, in Geography, the chief place of a canton, in the department of Roer, and district of Aix-la-Chapelle; Vol. V.

The place contains 3531, and the canton 17054 inhabitants; it has 30 communes.

BORCH, a town of Germany, in the circle of Lower Saxony, and duchy of Magdeburg; 4 leagues from Magdeburg.

BORCHEI, or Borchen, a town of Germany, in the circle of Weffphalia, and bishopric of Minden. 3d on the As, having a manufactur of cloth; 50 miles W. of Minden.

BORCH, Henry Vander, in Biography, a painter and engraver, was born at Brussel in 1523, became a disciple of Giles Valkenburgh, and completed his studies in Italy. He was employed by the earl of Arundel in collecting antique curiosities for his lordship in Italy, and retained in his service as long as he lived. After the death of this noble patron, he was employed by the prince of Wales, afterwards Charles II., and continued for several years in England, where his paintings were well esteemed. But retiring to Antwerp, he died there in 1662. His chief excellence consisted in painting fruit and flowers. Among the few etchings which he executed are the "Virgin and Child," from Parmagino, engraved at London and dated 1627; a "Dead Christ, supported by Joseph of Arimathea," from the same master; and "Apollo and Cupid," from Perin del Vago. Pickenston and Strutt.

BORCHWORM, or Borcworm, or Waren, in Geography, a town of Germany, in the circle of Weffphalia, and bishopric of Liefge; 10 miles W. of Liefge.

BORCKELOE, or Borckelo, a town of the united states of Holland, in the county of Zutphen, on the confines of the bishopric of Munffer, situated on the river Berkel; 15 miles E. N. E. of Zutphen, and 42 W. N. W. of Munffer.

BORCUM, a small island in the German ocean, near the coast of East Friesland; about N. N. W. from the point of Embden, at its S.W. entrance into the port and river, and about 2 leagues N. E. by E. from the island Riétum. Between them is a channel called the West Channel of the Emb. N. lat. 53° 36'. E. long. 6° 18'.

BORDA, Charles, in Biography, formerly Chronicier de Borda, and a chef d'Escadre, in the royal navy under the old French government, was born at Dax, May 4, 1733, and distinguished himself in early life as an able mathematician. Of his knowledge in this department of science ample evidence may be found in the Memoirs of the Academy of Sciences, for 1765 and 1767, of which he was admitted a member in 1754. These memoirs contain many excellent papers, communicated by Borda, on different objects of hydraulics; on the resistance of fluids; on water-wheels and pumps; on the projections of bombs; on the method of determining curve lines; on the properties of maxima and minima; and on the best method of choosing by lot. In the years 1771 and 1772, he performed a voyage, by command of the king, with Verdun de la Crane and Pingré, in the Flora frigate, in which he had the rank of "lieutenant de Vailieu," to various parts of Europe, Africa, and America, for the purpose of improving the sciences of geography and navigation, and of making experiments with various nautical instruments and time-pieces, with a view of ascertaining accurate methods for determining the longitude. The result of the observations of these three
navigators was afterwards published at Paris in 1778, in 2 vol. 4to., under the title of “Voyage fait par ordre du Roi, in 1771 and 1772, &c,” in which Bord's fame was not the least considerable. An account of the result of this excursion may be also found in the Memoirs of the Paris Academy for 1773. To Bord the public are likewise indebted for the best chart of the Canary islands, which served as a model for the valuable map of those islands, published in Spain in 1788. In 1774, he undertook a voyage to the Azores, the Cape Verde islands, and the coast of Africa. In the year 1785, he published a valuable work, entitled “Description et usages du cercle de Réflexion,” in which he revived the use of the reflecting circle proposed by Tobias Mayer in 1756. He was the first founder of the schools of naval architecture in France, and formed the plan of education, and the regulations to be adopted in these seminaries. He also applied the principles of Euler to the uniform construction of ships, so that all those of the French navy might be equal with respect to sailing. And the advantages, in point of form, with regard to quick sailing and manoeuvring, possessed by French ships which are constructed on true mathematical principles, and actually acknowledged by experienced British officers, have been principally owing to the genius, knowledge, and exertions of Bord. He likewise brought into use Mayer's old method of measuring terrestrial angles, after it had been long neglected; applied it to astronomic observations; and invented a circle on a new construction, with moveable telescopes, together with other instruments; such as metallic rules for measuring bales, which were used in the new measurement of an arc of the meridian in France; and to the labours of Bord the accuracy of this measurement has been justly ascribed. He took the most active part in the late reform of weights and measures introduced in France; and he caused to be calculated and printed, at his own expense, the logarithms of the decimal parts of the circle, according to the new division into 400 parts. In 1792, he invented instruments and methods for determining, with a precision before unknown, the length of a pendulum, swinging seconds at Paris. M. Lalande has published, in his Abrégé de Navigation, Bord's new method for gauging vessels, together with the tables. Bord was inspector of the dock-yards, in which situation government put great confidence in his talents; and, in 1779, he was one of the candidates for the office of director of the French republic. Although his health had been much impaired, in consequence of serving in the American war with d'Eftaing in 1777 and 1778, he continued to employ himself in a variety of useful labours. At length, however, a drop of the breath proved fatal to him, on the 26th of February, 1799, in the 64th year of his age. Lalande's Hist. Astron. for 1799.

BORDAGE, the condition of service of the bordarii. Du-Canon. Gloss. Lat.

BORDARII, often mentioned in the Domeday inquisition, were distinct from the servi and villani, and seem to be those of a less servile condition, who had a bord, or cottage, with a small parcel of land allowed to them, on condition they should supply the lord with poultry and eggs, and other small provisions for his board and entertainment. Though, according to Spelman, the bordarii were inferior to villani, as being limited to a small number of acres.

Bordarii also denote servants, or workmen, employed about the house in the necessary offices of fetching wood, drawing water, grinding corn, cleaning yards, and the like: by which they stand distinguished from villani, employed in the tillage of lands. See Villain.

BORDAT, in Commerce, a small narrow stuff which is manufactured in some parts of Egypt, particularly at Cairo, Alexandria, and Damietta.

BORD-BrIGCH, Borg-bryce, or Burgh-bryce, Sax. in English Antiquity, a breach, or violation of fortification, pledgebreach, or breach of mutual fidelity.

Borde, Andrew, or, as he calls himself, Andrew Epitaurus, in Biography, was born at Beverley in Suffolk, in the early part of the 16th century, and entered early among the Carthusians. Quitting his monastery, he went to Montpellier, and applied himself to the study of medicine, and in 1542, was made a doctor in that faculty. He now returned to England, and having been admitted of the university of Oxford, he came to London, and was made fellow of the Royal College of Physicians, which had been lately established here, and one of the physicians to king Henry VIII. at Winchester, where he principally resided and practiced. Though advanced to these honours, his works, full of gross and barbarous errors, shew he was but moderately skilled in languages. He, however, affected to be learned, generally beginning his accounts of diseases, with giving the Greek, Latin, and Arabic names by which they were known. His "Breviarv of Health," containing a short account of all diseases, and their remedies, was published in 1547. This was republished in London in 4to. in 1575, with some additions which the author had called the extravagants. He was also author of a compendious regimen, or dietary of health. made in mount Pyllor, which was published in 1562, and of a book on prognostics, and on urines. Bord was also a wit and a poet. He published "Tales of the mad men of Gotham," a book full remembered: and a very singular work, partly profe, partly in verse, which he called "The Introduction of Knowledge, &c." dedicated to the princess, afterwards queen Mary. Before the first chapter is a wooden print of a naked man, with a piece of cloth and a pair of shears, with this inscription:

"I am an Englishman, and naked I stand here,
Musing in my mind what reign I shall wear:
For now I will wear this, and now I will wear that,
And now I will wear I cannot tell what, &c."

The thought, Dr. Aikin says, is taken from the Venetians' description of a Frenchman. It was probably in consequence of his having taken more liberty than was allowed at that time with some person in power, that he was thrown into the Fleet prison, where he died in 1549. Haller Bib. Med. Aikin's Bib. Mem.

Bordeaux, in Geography, a town of France, in the department of the Drome, and chief place of a canton, in the district of Die, 10 miles S. W. of Die; the place contains 11,81, and the canton 3885 inhabitants: the territory comprehends 1724 kilometres and 9 communes.

Bordekow, a town of Poland, in the palatinate of Lemberg: 36 miles S. of Lemberg.

Bordelieire, in Ichthyology, the common French name of a fish included in the Cyprinus genus, that is found in the lakes of cold mountainous countries. This appellation appears to be indiscriminately applied to the Cyprinus bairner, and Cyprinus lutca of Bloch.

BorEDIUM, Toussaint, in Biography, was born at Paris in 1728. Having distinguished himself for his industry and skill in his profession, he was admitted member of the college of surgeons there in 1750, and professor of physiology in the school of St. Come. He was also, in succession, made honorary member of several foreign academies, to whose transafions or memoirs he was a frequent and liberal contributor. His works are "Essai sur la physiologie," 12mo. published in 1756, and again in 1784. An elementary work,
work, composed for the benefit of his pupils: "Remarques sur l'infériorité de quelque parties," 12mo. 1757. He reckons the tendons and aponeuroses of the muscles among the inextensible parts. In 1768, he published a translation of Haller's Elements of Phystiology into French; in 1769, "Dissertation sur les antécipées," Sv. & c., and in 1774, "Mémoires sur le danger des enfilailles pour la cure radicale des hernies," 12mo. For the titles and account of his dissertations, published by the academies with which he corresponded, see Haller Bib. Chirurg. Elov. Dift. Hist.

BORDENTOWN, in Geography, a pleasant town of America, in Burlington county, New Jersey, situated at the mouth of Crofwick's creek, on the eall bank of a great bend of Delaware river; 6 miles below Trenton, 9 N. E. from Burlington by water, and 15 by land, and 24 miles N.E. from Philadelphia. This town contains about 100 houses, and is a thoroughfare from New York to Philadelphia.

BORDER, in Gardening, a narrow stripe or portion of ground running along the sides of the walls, or other fences that inclose gardens, and ornamented lands, and which bound the walks, or serve to separate the different principal divisions of the former, the earth being generally laid out in a gently sloping manner from the front to the back parts. These compartments are either of the useful or ornamental description.

Tofe of the first kind, are such as are carried round the walls of garden-grounds, and which are mostly employed, especially where the aspect is to the south, in planting out various sorts of fruit-trees upon, such as cherries, figs, plums, apples, pears, peaches, nectarines, apricots, &c. in order to their being trained to the walls or fences, so as to form wall-trees, as well as extremely useful in raising different early esculent herbs, roots, and leguminous crops; and on the other aspects, for the fowing, reaping, and pickling out of many sorts of fruits and plants upon, in the summer season, that require a cool situation, or a degree of shade at particular periods of their growth. The general rule in laying out these borders is, that of making them with a breadth in proportion to the height of the walls, or palings towards which they are formed, which should never be less than eight or twelve feet. They were formerly made not more than five or six feet in breadth, which is much too narrow for convenience in the culture of the plants, or the management of the trees that may be planted on them. Where trees are to be planted as espaliers, ten or twelve feet are the breadths that should, in most cases, be allowed.

As to borders intended for the raising and growth of different sorts of flowers, or for small shrubs and herbaceous plants; or flowers being planted out in assemblage or mixture with each other, five or six feet in the former, and eight in the latter, may be proper breadths for the purpose.

Their depths, where trees are to be planted, should never be less than two feet at the walk, gradually increasing to three at the backs or fences. Some fruit-trees, however, require much more, as pears and apples. In other cases, one foot at the walks, and two at the backs, may form a sufficient depth and slope for the perfect culture of the crops that may be grown upon them. For flowers, and the smaller sorts of shrubs, it is often convenient to have them a little rounded on the surface. Where the situations in which the borders are made are of the more moist and retentive kinds, having clayey, or gravelly and cakyey bottoms, proper drains should be formed, and conducted along the fronts of borders to the full depth of the furrows, in order, effectually, to convey off the injurious wetness that may take place, and allow of a suitable bed being formed for the upper foil. This is often effected by paving the bottoms of the beds with tiles or bricks. But a much less expensive, and at the same time, equally effectual method is advised by the author of the "Scotch Forcing Gardener," which is, that of letting the bottoms be laid in a sloping direction from the walls to the drains, a fall of six inches being given, first with a layer of good loam, two inches in thickness, being spread evenly, and well rolled down; then a similar stratum of clear pit or river gravel applied over it, and forced down in the same manner; upon this, another coat of loamy earth is to be deposited to the thickness of an inch or more, and well pressed down; the whole being executed while the materials are in rather dry condition. These should be afterwards a little moistened, and well rolled down till the surface becomes glazed, the waterings and rollings being continued alternately, till the whole acquires a firming hardnese, and the gravel begins to show itself clearly through the loamy coat. In this way, it is asserted, bottoms may be formed, through which the roots of no trees can penetrate, and which are at the same time perfectly favourable to the growth of trees and plants.

In constituting the borders, those fulslances and mixtures of different materials, which are most adapted to the growth and success of particular sorts of trees or plants, will be explained in describing the culture which they require. Where the raising and growth of most sorts of culinary vegetables are the principal object of borders, there should be conisidered a due proportion of good vegetable mould, in combination with a proper quantity of rich, mellow, loamy earth, a suitable portion of well-rotted flable dung, according to circumstances, being incorporated with them, which produce them in the greatest perfection.

There is another sort of useful border, which is that which divides or surrounds the principal compartments or divisions of kitchen-garden grounds, and which immediately bounds or verges the main walks, as being convenient for planting ranges of dwarf-apple, pear, plum, cherry, medlar, and other trees upon, as espaliers, as well as for the culture of many herbaceous, esculent plants. The line of espalier trees, in these cases, should be planted at least three or four feet from the outer edges, so that there may be three or four feet borders on the outside next the walks, and a smaller one on the inside of the espaliers, the broader outside borders serving for the rearing and culture of many low-growing, esculent plants; and sometimes, where the kitchen and flower-garden are united, as flower-borders. The smaller inward borders may be found useful in raising many sorts of small plants and herbs, as lettuces, &c.

Borders of the latter, or ornamental sort, as those of pleasure or other grounds, must be formed according to circumstances. It was formerly the taste, in many places, to have almost every walk bounded on each side by a border embellished with various ornamental plants; this taste has now, however, in a great measure, given way to that of planting only on one side. A fine walk, ornamented on each side by spacious borders, fully planted out with curious flowering shrubs, and other plants, have, notwithstanding, a fine appearance and good effect in many situations.

Borders of curious flowers, carried along the boundaries of grass plots, or lawns contiguous to the house, whether formed in a straight or serpentine manner, produce an agreeable effect, and much variety. The borders for particular kinds of flowers, such as the curious sorts of hyacinths, tulips, ranunculuses, anemones, caramans, and various others, may be made either along the sides of walks, or detached in other parts of gardens, or ornamented grounds. Such borders as immediately bound or verge gravel, or sandy walks, should be planted on the sides, with edgings of
fome dwarf-evergreen sort of plants, such as those of box, thift, diaies, pinks, &c.; but the fift is the neatift and most durable plant for the purpofe. See Bulus, and Edging.

These forts of borders fhould always be rafed two or three inches or more above the common furface level; fhuch as are detached being generally finished off in a gently swelling or rounding form, in order that they may afford the full effect.

Border, in Heraldry. See Bordure.

BORDERIES, in Geography, a town of France, in the department of the higher Pyrenees, and chief place of a canton, in the district of Bagneres, four leagues S. of La Barthe; the place contains 368, and the canton 2822 inhabitants; the territory comprehends 2741 kilometres, and 11 communes.

BORDERES, among Florals, are fuch leaves as fland about the middle thrum of a flower.

BORDES, in Geography, a town of France, in the department of the Ariège; 15 leagues W. of Mirepoix.

BORDEU, Anthony, in Biography, a physician of considerable eminence, was born at Helfe, in Paris, in 1693. After being initiated in the study of medicine by his father, he went to Montpellier, where he was admitted doctor in that faculty in 1719. Invited, in 1723, to Toul, the capital of the province, he acquired such reputation, as to procure him the offices of physician to the military hospital at Bagneres, and of inspector of the mineral waters there. To the waters he paid great attention, and in 1750, he published a small treatise, shewing the effects he had experienced from them in a variety of diseases. He lived to an advanced age, but the precise time of his death has not been noted.

Bordu, Theophilus de, following the steps of his father, attained to a still higher degree of professional eminence. He was born in 1722; and having passed through his studies with singular credit, was created doctor in medicine at Montpellier, in 1743. In 1745, he was appointed to succeed his father, as inspector of the mineral waters, and professor in anatomy, which was his favourite study. In 1747, he was made corresponding member of the Royal Academy of Sciences at Paris, whither he soon after went; and after passing through the usual course of studies, he was admitted doctor in medicine there, in 1754. He was taken off suddenly by a stroke of apoplexy in 1756, being in the 53rd year of his age. He was through life diligent and attentive to his professional duties, and seems to have been actuated by a desire of improving his art, and of leaving memorials of his industry and ingenuity. The principal of his works are, "Chylyficationes historia," his inaugural thesis, 1742, re-printed at Paris, 1752, 12mo, with his "Recherches fur les glandes." He thought he observed a duct passing from the thyroid gland to the trachea; an opinion, which he repeats in another of his works, but without sufficient ground. "Difertation physiological de fensu generis confederato," Montpellier, 1743, 8vo; 1751, Paris, with his "Chylyficationes historia." Letters contenant des effails fur Philofoie des eaux minerales du Darn, Sc. 12mo. 1746. In thefe he treats of the properties of the waters, and of the geography of the Bearns. "Recherches anatomi-ques fur la position des glandes et fur leur action, Paris, 1751, 8vo. "Recherches fur le pouls par rapport aux criftes," Paris, 1756, 12mo., in which he has gone much beyond Solano in his differentiation of pulses, and beyond what can be followed in practice. "Recherches fur le tifflu muqueux, et l'organe cellulaire," Paris, 1766, 12mo. Haller accuses him of difingenuity in attributing to himself the discovery of some properties of the cellular membrane, which had been before defcribed by him and others, but does not deny the work to have on the whole considerable merit. Hall. Bib. Abat. Ely. Dift. Hist. Aikin's Gen. Biog.

Bordue, Francis, brother to Theophilus, and educated under his father, was born at Pau, in 1737. Having taken his degree of doctor in medicine at Montpellier, in 1755, he returned to Pau, and was appointed to supply the place of his brother, as inspector of the waters there. In 1757, he published "De feconditut & contrac- tibilitate partium in corpore humane fanco," Montpel.; and in 1765, "Precis d'observations fur les eaux de Bagneres," &c. 12mo. collected principally from the works of his father, brother, and other writers on the subject. "Recherches fur les maladies chroniques, leur rapports avec les maladies sigues," &c. 1775, 8vo; principally with the view of shewing the utility and the manner of administering mineral waters in the cure of chronic complaints. Haller. Bib. Cimburg. Ely. Dift. Hist.

BORD-FREE. See Free.

Bord-Halfpenny, or Bord-Halpenny, money paid in markets and fairs, for setting up boards, tables, and stalls, for the sale of wares.

BORDIGHERA, in Geography, a town of Italy, in the state of Genoa, 5 miles E.N.E. of Ventimiglia.

BORD-LANDS, the provinces anciently kept by the lords in their hands for the maintenance of their table or board. This was anciently called bordage.

BORDO NUOVA, in Geography, a town of Servia, 18 miles E.S.E. of Piltina.

BORDOE, one of the Faroe islands, having a harbour on the N.W. coast.

BORDONE, Paris, in Biography, a painter of history, portrait, and architecture, was born at Trevigi, in 1513, and at a proper age became a disciple of Titian, whose uncommunicative disposition he had occasion to regret. He studied and imitated the style of Giorgione, and acquired such reputation, that at the age of 18 years he was employed in painting a picture in the church of St. Nicholas. From Venice he removed to Vincenza, in consequence of an invitation to adorn a gallery with paintings in fresco, in which Titian had exhibited a design representing the judgment of Solomon. Bordone composed the history of Noah and his sons, which he finished with such care, that it was not esteemed inferior to the work of Titian. Having finished several considerable works at Venice and Trevigi, he entered, in 1538, into the service of Francis I. of France; and gained additional reputation by various historical subjects and portraits, which were excellently designed, and recommended by a charming tone of colour. On quitting France he visited several cities of Italy, in which he left a number of memorable works, as monuments of his extraordinary abilities. His colouring resembles nature, and his portraits have been very much admired; several of them are still preferred in the Palazzo Pitti at Florence, the colouring of which is clear, fresh, and beautiful. This artist died in 1588, at the age of 75, according to Vafari; but according to Fulbin, at the age of 65 years. Pilkington.

BORD-SERVICE, called also Bordage, the tenure of lands on condition of furnishing provision for the lord's board or table.

Some lands in the manor of Fulham, and elsewhere, are still held of the bishop of London, by the service, that the tenants pay fixpence per acre in lieu of finding provision for their lord's table.

BORDURE, or Border, in Heraldry, is a partition line running all round the inside of the field, of an equal width, taking up one-fifth from the outer edge of the field, and without any shadow. Arms having a plain bordure, are emblazoned.
blazoned argent, a bordure gules; but if indented, engrailed, embattled, &c. argent, a bordure indented, gules. The bordure always gives place to the chief, the quarter, and the canton; for example, or, a bordure, azure, and a chief, gules. The chief, therefore, is always placed over the bordure, as are also the quarter and canton. The bordure is continued under the chief, but with the quarter and canton it continues round, until it touches them, and there finishes; but with other ordinaries, as the chevron, fess, bend, &c. the bordure always passes over. In arms empaillée with another having a bordure, the bordure must finish at the empaillé line, and not proceed round the cost, as is too often practised. When the bordure is charged with bezants, plates, billets, or pellets, it is termed a bordure, gules, bezantée, plate, billetée, or pelletée; all other charges are expressly mentioned as to number and colour. The bordure is borne different ways, as gobone, cheque, vair, bend, &c. which are explained under the different terms. See GOSONE, &c.

The bordure is not considered as one of the honourable ordinaries, but as a mark of difference, to distinguish one family from another.

BORDURE, Per, an inner bordure, appearing as two bordures: bordure indented, with the middle line indented.

BORDURE, point in point indented, differs from the bordure per bordure indented, as the indents must be from line to line, that is, mult touch both sides of the bordure.

BORDURE of the field, is merely a partition line, of the colour of the field, running round the arms. This bearing is never used in English armory, but is often borne both in France and Germany.

BORDURE Enter, commonly called enteron, or entoire, a term when charged with inanimate things, as celestial shells, &c.

BORDURE Encore, as called when charged with birds.

BORDURE Enmy, when charged with lions.

BORDURE Verkey, when charged with vegetables.

BORDURE Purplicawed, when it is shaped like vair.

BORDUUN, German, probably from Bourdon, Fr. a flot in an organ so called, of which the sounds are an octave lower than the diapason, to which this flot is in the same proportion as the double-bass to the violoncello. In an organ, of which the longest pipe in the diapason is sixteen feet, that of the borduun would require thirty-two feet. See ORGAN and DIAPASON.

BORE, in Geography, a town of Asiatic Turkey, in the province of Caramania, 70 miles E. N. E. of Cogni.

Bore, a term used to denote a sudden and abrupt influx of the tide into a river or narrow strait. This prevails to a considerable degree in the principal branches of the Ganges, and in the Megna; but the Hooghly river, and the passageways between the islands and fands situated in the gulf, formed by the confluence of the Ganges and Megna, are more subject to it than the other rivers. This may be owing partly to their having greater "embochures," in proportion to their channels, than the others have; by which means a larger proportion of tide is forced through a passageway comparatively smaller; and partly to the want of capital openings near them, by which any considerable portion of the accumulating tide might be drawn off. In the Hooghly or Calcutta river, the bore commences at Hoogly point, where the river first contracts itself, and is perceptible above Hoogly town; and its motion is so quick, that it hardly takes up four hours in passing from one to the other, although the distance is near 790 miles. At Calcutta it sometimes occasions an instantaneous rise of five feet: and both here, and in every other part of its track, the boats, on its approach, immediately quit the shore, and seek safety in the middle of the river. In the channels, between the islands, in the mouth of the Megna, &c., the height of the bore is said to exceed twelve feet; and it is so terrific in its appearance, and dangerous in its consequences, that, on the whole, will venture to pass at spring-tide. After the tide has passed the islands, no vehicle of a bore is seen, which may be owing to the great width of the Megna, in comparison with the passageways between the islands; but the effects of it are visible enough, by the sudden rising of the tides.

The bores are also high and dangerous in the mouths of the river Indus. To this sudden influx of the tide, in a body of water elevated above the common surface of the sea, may be ascribed the injury suffered by Alexander's fleet, and described by Ariean. He says, those ships that lay upon the land were swept away by the fury of the tide, while those that stuck in the mud were not swept away without damage. In order to account for this fact it should be considered, that the bottoms of channels, in great rivers, are muddy, while the shallows are formed of sand; and it is the property of the bore to take the shorter cut up a river, instead of following the windings of the channel; consequently it must cross the sand-banks it meets in its way; and it will also prove more destructive to whatever it meets with aground than what is afloat. Kennell's Memoir.

BORE, in Gunnery, the bore of a gun, or piece of ordnance, is used for the chaise or barrel; though it seems rather to denote the diameter of the chaise. See CALIBER, and CANNON.

BORE, figure, in Smithery, denotes a square heel point, or Shank, well tempered, fitted in a square socket in an iron wingle, serving to wind holes, and make them truly round and smooth within.

BOREA, an ancient name for a species of JASPER, of a bluish green colour.

BOREADES, in Mythology, the patronymic names of Zethes and Calais, the sons of Boreas. Hyginus (feb. xlv.) says, that they had wings to their head and feet.

BOREAL SIGNS, in Astronomy, the first six signs of the zodiac, or those on the northern side of the equinoctial.

BOREALIS, AURORA. See AURORA BOREAIS.

BOREALIS, in Comology, a species of Venus. This shell is lenticular, with very remote, erect, membraneous transverse striae. Gmel. This is a small shell, measuring about an inch and a half in length; colour, dirty white. Inhabits the north of Europe. Donov. Brit. Shells, &c.

BOREALIS, in Entomology, a species of Tabanus, distinguished by having the eyes with three purplish bands; abdomen black, the segments whitish at the edges. Size of T. plurialis. Inhabits Norway. Gmel. Fabr. The thorax of this insect is brown; abdomen black with a pale glaucous spot on each side of every segment; legs black. This is a rare species.

BOREALIS, a species of Coccinella, of a reddish, or yellowish colour, with twelve black dots on the wing-cases, and four on the thorax. Thunberg, Fabr. &c. This is a native of the Cape of Good Hope. Shape gibbous, beneath of a yellow colour.

BOREALIS, in Natural History, a species of Clio, of a whitish colour, having the lobes of the head terminated in a flesh coloured point papilla; tentacula three, fleshly, and thick at the mouth. Inhabits the north seas. Tallas, &c. This is nearly allied to Clio reitii. Gmelin supposes that it may be the same.

BOREALIS, a species of Echinorhynchus, found in the intellines of the Eider duck. Gmel. This is called Sipunculus lenticis, by Phips. it.

BOREALIS, in Ornithology, a species of Anas, with a narrow bill, the head green, throat and abdomen white. Gmel. This
This is the Greenland duck of Latham, who informs us it is a native of Iceland, where it inhabits fens, and is very scarce.

*Borealis*, a species of *Tringa*, the belly and legs of which are purplish; body above emerald, beneath white; tail and wings dull. Found in King George's bay. This is the *Boreal sandpiper* of Latham. The bill is short, black, and somewhat gibbous at the tip; eye-brows white.

*Borealis*, a species of *Motacilla*, of a green colour; beneath yellow; front, throat, and temples ferruginous; tail rotund, feathers on the sides and at the tips white. A native of Kamtchata, called by Latham the *Ruffish headed warbler*.

Obf. The bill is pale; legs black; and the whole body tinged with olivaceous colour.

*Boreas*, a Greek name now in popular use, for the north wind. Etymologists usually derive the word from *bura*, clamor; or from *beps*, food, because it creates an appetite.

Pezron observes, that anciently, and with much greater propriety, *Boreas* signified the north-east wind blowing at the time of the summer solstice; he adds, that the word comes from the Celtic *bore*, morning; because their principal light, in that season, came from that quarter, whence also the winds then usually blew.

The Greeks erected an altar to Boreas, whom they considered as a deity, the son of Aegeus and Aurora, whose feet was in Thrace. He is represented on the temple of the eight winds at Athens with his robe before his mouth, as if he felt the cold of the climate over which he presides, agreeably to the description of Ovid, who calls him *gêthos tyran-ness*, the shivering tyrant. Met. vi. ver. 711. But he is usually described by the Roman poets as violent and impetuous. Ibid. ver. 686—ver. 707.

The qualities allowed by naturalists to this wind are coldness and dreyness.

*Boreas*, in *Entomology*, a species of *Bombyx*. (Phal. Linn.) the wings of which are tailed, and varied with emerald and fulvous; on the fin, or anterior pair two dots, on the posterior wings a single transparent one. Fabricius, &c. This is a native of America, and has the anterior wings falcatated.

*Boreas*, a species of *Cancer*, in the family *Aeateus*, that inhabits the north seas; it is distinguished by having the thorax acutated, and the second and third pair of legs filiform. Fabr.

Obf. The beak of this kind is short, depressed, acute, grooved on each side with a strong tooth beneath.

*Boreas*, in *Ancient Geography*, a mountain of Arcadia, on which are the remains of an old temple, which, it is pretended, was built by Ulysses after his return from Troy.

*Borea*smi, were feasts instituted at Athens in honour of Boreas, who was thought to bear some relation to the Athenians, as he had married Orityla, the daughter of Erec- theus; for which reason, when, in a sea-fight, many of the ships of their enemies were destroyed by a north wind, the Athenians imputed it to the kindliness manifested by Boreas to the native country of his wife. Paunians Attic. We are informed by the fame author (Arcad.) that solemn sacrifices were offered to Boreas at Megalopolis in Arcadia, where he had a temple, and divine honours.

*Borech*, in *Natural History*, a kind of salt brought from Feria.

*Borecole*, or *Borcole*, in *Agriculture*, a plant of the cabbage kind, sometimes cultivated in the field for the purpose of a green winter food for cattle flock. There are three sorts of it, the common borecole, the green borecole, and the Siberian borecole, or curled cole, or kale. The last sort is the most hardy.

These plants are grown to most advantage in the field, where the loils are rather strong, fresh, rich, and deep, whether of the clayey or loamy kind; and where they have been deeply flurred by the plough, and had a good proportion of manure turned in. See *Brassica*.

In Mr. Baker's experiments in planting them in rows at the distance of two feet each way, for the use of the horse hoe; the produce was very considerable. And he supposes that it would be still greater, if they were cultivated at the distance of eighteen inches. If the crops were equally good, there would be, he affirms, from the produce here already obtained, in the first method, seventeen tons fifteen hundred weight on the acre; and in the latter, more than twenty-three tons twelve hundred. On this account, as well as that of their being capable of being cut over two or three times, and their standing the severest frost, it is concluded that they are highly deserving of the farmer's attention as a winter food for cattle and sheep, though it is confided that the first produce may not be so great as in the common cabbage, but that deficiency is made up by the succeeding ones. There is likewise rather more trouble in collecting the food and conveying it to the animals.

It is fuggelled, without having been subjected to the test of actual experiment, that the best mode of consuming this sort of food by sheep flock, would be to have two small fields under this kind of crop, proportionate to the number of animals; and to turn the ewes or other flock into one of them about the beginning of September, or the following month, for a few hours in the mornings and evenings for five or six weeks; lodging them on a portion of grass or fellow ground near it for the rest of the time; in order that they may evacuate themselves by which much improvement may be produced in such lands; and when all the more luxuriant leaves of this piece have been cropped and consumed, the other field should be managed in the same way.

In this method it is fuggelled that a flock of store sheep might be kept a whole winter at a very moderate expense; and while the produce of one piece was consuming, the other would be coming forward. It is remarked, that the flock should not be kept so long upon the crops as to injure the stems of the plants, as that might check the succeeding growth of the leaves. This plan is obviously confined to ewes or store sheep.

It is doubtful, however, whether the expense of cultivating this sort of crop, except in particular soils, situations, and severe feasons, will admit of its being used as a winter sheep food in preference to turnips, or other similar articles of fodder.

*Borecole*, in *Botany*. See *Brassica*.

*Boree*. See *Bourbee*.

*Boreel* Conex, in *Biblical History*, a MS. noted F. in the first part of Wetstein's N. T. which contains the four gospels, beginning with Matth. vii. 6. and having the two following chapters, Matth. xiii. 26—58. and Mark vi. 6—16. It was formerly in the possession of John Boreel, Dutch ambassador at the court of London, in the reign of James I. Its present situation is unknown.

*Borek*, in *Geography*, a town of Poland, in the palatine of Kalish; 28 miles W. of Kalish. Here is a famous image of the virgin Mary, to which pilgrims resort.—Alfo, a small town of Bohemia, in the circle of Saaz.

*Borel, Peter*, in *Biography*, born at Castres in Languedoc, about the year 1620, after being initiated in classical literature by his father, James Borel, from whom he also received
ceived a taste for poetry, and for antiquarian researches, prosecuted his medical studies at Montpellier, where he was admitted doctor in medicine, in 1641. Returning to Castres, he acquired so much reputation by his practice there, that in 1653 he was invited to Paris, and made physician in ordinary to the king; and, in 1653, member of the royal academy of sciences. Borel was a diligent collector of natural and artificial rarities, of which he left a cabinet well flored. His publications are, "Les Antiquitez, raretés, plantes, minéraux, &c. de la ville et comté Castres, et un recueil des inscriptions Romaines du LangUEDoc et de Provence, avec la liste de principaux cabinets et autres raretés de l'Europe," Castres, 1649, 8vo. The titles of the articles in his own cabinet are here given: "Historiarum et observationum medico-physicarum, continet quatuor," Castres, 1653, 12mo. A few of the cates are curious and interesting, but far the greater number of them are too insignificant to deserve notice, or too extravagant to be credited by persons who are only moderately instructed in the principles of medicine. To this volume are usually joined the observations of Cattier, of Rhodos, of Arnold Boet, and the confutations of Rossiis, "Bibliotheca chymica, feu catalogus librorum philosophicorum hermeticorum," Parisii, 1654, 12mo. "De vero inventore telecopii, cum brevi ommni ostentorum historia," Hage Comitis, 1655, 4to. "Tres des recherches et antiquitez Gauloises." "A dictionary of words and phrases, which had become obsolete," 1655, 4to. "Diecurs prouant la pluralité des mondes," Geneve, 1657, 8vo. "Hortus, seu armafactarium simplicium plantarum et animalium, ad artem medicam pertinentium," Parilisii, 1666, 8vo. To each of the articles, which are arranged alphabetically, the author has given a short account of its medical properties. Borel died at Paris in 1678. Haller Bib. Anat. Med. Botan. Eloy Déc. Hist.

Borelli, John Alphonse, distinguished for his profound skill in mathematics, and in medicine, was born at Caletelnuvo in Naples, the 28th of January 1608. Under the tuition of Caletelli, at Rome, where he was sent to complete his education, he made such progress, that he was, at an early age, invited to Messina to teach the mathematics. As he had made medicine, as well as philosophy, his study, he there published an account of a malignant fever which had raged in Sicily, in the years 1647 and 1648. "Delle regioni delle fibrie maligni di Sicilia," Cofenza, 1649, 12mo. Dignified, at length, with his employers, he accepted the offer of the professor's chair at Pisa, in 1656, where he lectured with great applause and success. The fame of his abilities had now conciliated to him the favour of the grand duke Ferdinand, and prince Leopold, who procured him to be elected member of the academy del cimento. It was here probably he first conceived the design of employing mathematical principles, in explaining the functions of animal bodies. He now applied himself diligently to the instruction of animals. Several of his letters, on the subject of anatomy, are published in Malpighi's posthumous works, written between the years 1659 and 1664. In 1658 he published, at Pisa, a second treatise on the nature and treatment of malignant fevers. "Della caufe, delle fibrie maligne," 4to. His first physiological work, "De rerum us us judicium," appeared in 1664, with the treatise of Bellini, "De structura rerum," printed at Strasbourg, 8vo. In 1669, he gave a dissertation, in which he advanced the eyes have unequal powers, the one observing objects more distinctly than the other. "Observazione intorno alla virtu inequale degli occhi," Giorn. de Lit. In 1667 he published, "Tractatus de vi percussionis," Bonon. 4to.; and in 1669, "Obser-

vations on a remarkable eruption of mount Aetna," at which he had been present, having the preceding year quitted Pisa, and returned again to Messina. This account was written at the desire of the royal society of London, with which he corresponded, and was printed in their transactions. In 1770, he gave his treatise "De motibus naturalibus a gravitate pendentibus," a prelude to his great work, "De motu animalium," which did not appear until after his death. At the revolt of Messina, being supposed to have favoured the insurgents, he was obliged to quit that place. Christlina, queen of Sweden, who resided at that time, at Rome, invited him thither, and he continued to enjoy her patronage to the time of his death. That he was not, however, much enriched by her favour, nor had acquired much by his lectures, and by the works he had published, appears by his being obliged, during the two last years of his life, to undergo the drudgery of instructing youth in mathematics, at the convent of St. Pantalon, called the pious schools, where he died of a pleurisy, December 31, 1679, in the 52d year of his age. The first volume of his work, "De motu animalium," appeared in 1680, Rom. 4to. It is dedicated to Christlina, and was printed at her expense; and the second, which completed his design, in the following year. Borelli's principal intention in this work, was to explain the functions of animal bodies, on mechanical principles. He describes the fibres of the muscles, which he supposes to be vesicular; and that these vessels become inflamed by a portion of the nervous juice falling into them, and mixing and fermenting with the blood they contain, whence the muscle becomes swollen, and its fibres shortened. He measures the degree of force or power each of the fibres possesses, and the power of them collectively, which, according to his estimate, is immense. He shows how that power is increased or diminished, by the manner in which the fibrous fibres are joined to the tendons. He calculated the power of the heart, in propelling the blood, which he supposed was equal to 180,000 pounds in weight. Though Borelli in this and other of his calculations was shown to have erred considerably, yet his general principles were for a long time after acknowledged and adopted, and even the operations or effects of medicines, on the human body, were supposed to be explicable on mechanical principles. He also invented an apparatus by which perous might go down a considerable depth under water, remain there, move from place to place, and sink or raise themselves at their discretion; also a boat in which two or more persons might row themselves under water. Haller Bib. Anat. Gen. Biog. Philos. Transact. abridged, vol. ii.
fary to lengthen the instrument: and this may be repeated, by the addition of more rods, to any depth desired; &c. Fig. 1. is the handle of this instrument, two feet and a half long; and is held at the hand, by the handle being fastened to the rod by means of a clap, 4, fixed in the lower end of one rod by a hinge, and at the other by the screw B, so that it may be placed at any height.

Fig. 2. is the handle separated from the rod, and marked with the rod, with the same letters as before. Fig. 3. is another handle, or rather lever, like the handle already described, except its having only one branch, or lever, marked g. This serves to flop the borer in bringing it up from a confiderable depth; and also to screw and un- screw the several bars or joints as occasion requires, and to put on and take off the steel point at the bottom. The handle g, by means of a screw, is that by which the rod is held, and is brought into the earth, either by twisting it round, especially at first, or, after it has penetrated to some depth, by lifting it up, and letting it fall again, which it does with such force as to pierce even the hardest rocks; especially if it works at any confiderable depth, and has of course been lengthened accordingly: for every foot of this rod weighs three pounds. Two men will easily find the depth of twelve feet in 1.5. than a quarter of an hour, if they do not meet with many stones. When the rod becomes too heavy to be properly managed by hand, it may be raised by a rope fastened at one end of the handle, and at the other to a roller, or kind of windlass, erected at a proper height, perpendicular over the hole, and turned with either one or two handles. This will cost but a trifle, and easily raise the rod, which, when let go, will fall with such weight as to strike each time very deep into the earth. The marquis de Turbilly observes, that he has seen it wrought in this manner to the depth of more than a hundred feet.

The toughflft iron is the best for making this instrument, which should be well hammered, till its surface is quite smooth and even; for the least roughness and inequality would occasion friction, which would greatly retard its working. For the same reason, and also to incerase the force of its fall, it is necessary that it should be perfectly straight; nor should it ever be struck with a mallet, hammar, &c. to force it down, because a blow might bend it, and it would easily break afterwards. The female screw must be turned like that in the breech of a gun-barrel, in a separate piece of iron, crofs-ways to the grain; and this piece must be afterwards well folded on to one of the ends of the rod.

The reason for this is, that if the female screw were bored only at the end of the rod, it would, by being hammered out in the same direction with the grain, be fringy and porous, and consequently too weak as to give way, or burrf, in the working of the rod; whereas, when made of a separate piece, taken crofs-ways to the grain, the threads of the screw will run with the grain of the iron, and be the more considcrably strengthened. A bar like that of an auger, proportioned to the thickness of the rod, may at any time, when necessary, be substituted instead of the steel point, to draw up a sample of the subfance from the very bottom of the founding. If the only thing wanted be to know the nature of the under foil, and layers of earth, so far as they may affect the vegetation of plants, it will be quite sufficient to bore eight or ten feet deep. A greater depth is only requisite, when water, marble, ore, &c. is sought for, but the common auger may do very well for shallow boring.

By either of these implements there is a certainty of discovering, without much charge or any hazard, not only what earths are under the upper foil, but also whether any other substance of value lies concealed there, such as marble, chalk, fullers' earth, fossile shells, coals, quaryes of slate or stone, cres, &c. many of which lie hid and entirely un- thought of in places where their value, if it was known, would be ten times more than that of the elleate which covers them.


BOREM, in Ancient Geography, a mountain of Greece, in the Peloponnesus, placed by Leofandus, in Arcadia.—Also, the name of a port in the isle of Tenedos, according to Arrian.—Also, a promontory of Africa, in the Cyrenaica, at the extremity of the gulf of the Syrtes Major. Published.

BORG, or Boro, in Geography, a town of Denmark, in the island of Femern. N. lat. 55° 50', E. long. 17° 58'.

BORGARUCCI, Prosper, in Biography, an Italian physician of eminence, who flourished about the middle of the 16th century. After attending the lectures of Vesalius for some years, he travelled into France, Holland, and England, to improve himself in medical knowledge. On his return he published "Della contemplatione anatomica sopra tutte le parti del corpo umano, libro quindices," 8vo. 1565, Venet. Some of his observations are made, in this volume, on the great anatomical work of Vesalius, whom our author, however, never met with respect. "Trattato di pellic," Venet. 1565, 8vo. "De morbo Gallino methodus." Though he describes the method of curing the lues with mercury, he profess the use of guinacum, believing that men from using mercury were rendered incapable of procuring. He makes no mention of sarsaparilla, or the China root, though well known in his time. This tract is inserted by Leofandus in his collection of treatises on the disaease. Borgarucci taught anatomy and medicine at Padua for some years. In the year 1567, he was called to France, where he was honoured with the title of physician to the king, which he afterwards used. The time of his death is not known. A. de Morb. Ven. Haller. Bib. Anat. Elov. Dict. Hist.

BORGE, in Geography, a town in the island of Cephalonia; 2 miles S. of Cephalonia.

BORGFIORD, or Borga-fiorder, a fylfjord or district of Iceland, in which are warm baths, built in the 13th century, by the famous historian Snorri Sturlan. They are so spacious and so well contrived, that 100 persons may bathe in them at the same time. Near these is the crofs-bath, in which the inhabitant of the western parts of Iceland were baptised, in A. D. 1000; whence its name.

BORGENTRICK, or Borrenar, a town of Germany, in the circle of Welfphalia, and bishopric of Paderborn; 5 miles N. E. of Warburg.

BORGHETTO, a town of Italy, in the Lodefane, 2 miles S. of Lod. Also, a town of Italy in the state of Genoa. 8 miles N. E. of Albenga.

BORGHINI, Vincent, in Biography, a learned bi- dician, was born of a noble family at Florence in 1514, and entered among the Benediciines in 1531, devoting himself to study and the offices of a religious life. Duke Cosmo appointed him prior to the hospitall Sta. Maria degli Emanenti at Florence, and he performed the duties of this station with great benefit to the institution, declining the archbishopric of Pisa, till his death in 1560. His reputation for acquaintance with the purity of the Tuscan dialect was such, that he was entrust with the publication of a corrected edition of the decameron of Boccacio in 1573; and to him are ascribed the annotations and discoveries that accompany it. His own principal work consisted of two volumes of "Diforci," printed.
printed at Florence in 1584 and 1585, 4to., which comprehend twelve dissertations on the origin and ancient state of that city, and of others in Tuscany, abounding with a variety of curious erudition. He was likewise well skilled in painting and architecture; and he was entrusted by duke Cosimo with the decorations for the nuptials of his son Francis, and named by him as his subtile in the academy of design. Several of his letters are published in various collections. Gen. Biog.

BORGHOLM, in Geography, a town of Sweden, in the island of Oeland. Near it is the commodious harbour of Borga.

BORGHOLZHAUSEN, a town of Germany, in the circle of Weilphalia, and county of Ravenburg, 6 miles S. W. of Hervorden.

BORGHORST, a town of Germany, in the circle of Weilphalia, and bishopric of Munster; 3 miles E. of Steinfort.

BORGI, in Ancient Geography, a people of Asia, placed by Ptolemy in Asia.

BOGIA, Cesar, in Biography, a man whose dire ambition deservers to be configned to perpetual infamy in the page of history, was the second son of cardinal Rodrigo, (afterwards pope Alexander VI.) by his mistress, the artful Vanozza. As he was designed for the church, he was invested, whilst a child, with the archbishopric of Pamplona, and sent to Pisa for his education. As soon as his father was elected to the papal see, in 1492, Borga hastened to Rome, expecting to share in those dignities which his father's elevated station empowered him to demolish. On his arrival, Alexander received him with a grave aspect, and with a lecture on the necessity of restraining his ambitious views, and of seeking honour in the path of virtue. This mode of reception was neither suited to the character of the father nor to the disposition of the son; but the mother of Borga soon quieted his mind, by affording it to its true caufe, the artifice and hypocrisy which Alexander thought it necessary to practise on his elevation to the papal throne. Notwithstanding this lesson of moderation, Borga was immediately made archbishop of Valletta, and, in the following year, promoted to the dignity of cardinal. When the French army, under Charles VIII. entered Rome, in their expedition against Naples, and compelled the pope to a treaty, Borga was obliged to accompany the king as apostolical legate, or rather as an hostage for the performance of the stipulated conditions; but finding an opportunity to make his escape, and to return to Rome, the treaty was broken, and the king was under a necessity of leaving Italy. About this time Vanozza urged a complaint against the French for having plundered her property, and excited both Alexander and her son to revenge the injury she had suffered. Accordingly they began with administering poison to Gene, brother to Bajazet, who had fled to Italy, as to a sanctuary, from that Sultan, and whom the French wished to have in their possession, because, after the taking of Naples, they projected an expedition against the Turks. Not satisfied with this violation of the obligations of hospitality, they proceeded, by means of affinities, to destroy the French who remained at Rome. Borga, perceiving that his elder brother, the duke of Gandia, obstructed him in the career of his ambition, and that he was his rival in an amour with a lady, said by force to be their own sister, Lucretia Borgia, who was also a very particular favourite of her father, determined to get rid of his competitor. Accordingly, on the eve of his departure to the king of Naples, under the character of his legate a latere, he contrived means to affinate his brother. This event happened in the year 1497. After the accession of Lewis XII. to the throne of France, pope Alexander entered into a negotiation with him, particularly with a view to the promotion of his son. For the more effectual attainment of the objects of his ambition, Borgia resigned his dignity of cardinal; and proceeded as ambassador to France, where Lewis created him duke of Valentinois, granted him a pension, and appointed him to a command of cavalry. At this time Lewis had solicited the pope for a dispensation to divorce his wife, and to marry Anne, duchess of Burgundy; and the dispensation for this purpose was conveyed by Borgia. Borgia, however, retained it in his possession, in order to enforce his interdict with the king, for obtaining Charlotte, daughter of the king of Naples, who was intended by his father Alexander for his wife. But pretending that he was in daily expectation of receiving the dispensation from Rome, and delaying the delivery of it, the king became impatient; and applying to the bishop of Setta, who was then the pope's nuncio at Paris, he was informed, that Borgia had brought it with him to France. Upon this Lewis convened a number of divines, who authorized him to divorce his wife, and to marry Anne of Burgundy. The marriage having been concluded, Borgia was at length obliged to deliver the dispensation to the king; but he revenged himself on the nuncio by a dose of poison, which proved fatal. Charlotte rejecting his addresses, on account of his infamous character, he married the daughter of the king of Navarre, and was honoured by Lewis with the order of St. Michael. The father and the son, powerfully protected by France, co-operated in a variety of barbanous affimations, partly for the purpose of revenge for real or imagined injuries, and partly with a view of feizing the property of those whom they dispatched, in order to carry on an unjust war, which they had undertaken. The pope, having formed a design of reducing the territory of Romagna to the obedience of the holy see, intended to form it into a principality for his son. Borgia, now duke of Valentinois, came from France with a considerable force, in order to accomplish the purposes of his father; and began his campaign with the siege of Imola and Forli, which soon succumbed; and he afterwards reduced Pifarco, Rimini, and Faenza.

In 1501, Borgia obtained from his father the title of duke of Romagna. In the course of this war, conducted with a ferocity and spirit of rapine and revenge seldom paralleled, he proceeded with such success, that the Italian powers were at length alarmed, and formed a confederacy against him. He contrived, however, to defeat this combination, to detach some parties from the alliance, and, with his accustomed perfidy and cruelty, to invite three of the heads of the association to Senigajia, under a pretence of establish ing peace, and to cause them to be strangled. Borgia and his father concurred in all these detestable measures, and by their united arts, alternately courted the powers of France and Spain, as each appeared to have the greatest influence in the affairs of Italy. In 1503, Borgia bore his father, who was supplicating to have died by poison, which they had prepared for a rich cardinal, whose estate they wished to appropriate to themselves, but which they both took by mistake. It proved fatal to the father; but the son, by strength of constitution, escaped with his life, though he long experienced its pernicious effects. Upon the ascension of pope Pius III. Borgia came to Rome with a great retinue; but being universally detested, he avoided the affaults of his enemies by sheltering himself in the Vatican; and his life was preserved by the protection of the king of France; but he afterwards, with base ingratitude, quitted his party, and joined that of Spain. During this interval, many of the towns in his territory of Romagna were feized by the Venetians; and pope Julius II.
BORGIAN MS. in *Biblical History*, a fragment of a Coptic-Greek MS. brought by an ignorant monk from Egypt, containing about 12 leaves, sent to Stephen Borgia, secretary to the Society de propaganda fide. It begins with John vi. 28. and ends vii. 23.; and is divided into two columns, the first containing the Greek text in the Coptic letters, and without intervals between the words, and the other containing the Coptic. It is an important specimen, says Michaelis, of the Alexandrine edition; and he greatly laments that so much of it is lost. Professor Birch, who collated this MS. described it in his Prelogomena, p. 49, and communicated its various readings in his Greek Testament. The whole of it is printed in "Georgii Fragmentum Graeco-Coptico-Thebaicum," Rome, 1789, 4to. Birch has likewise described and communicated the readings of two other Borgian MSS.; one supposed to be of the 1st century, containing the four gospels, and the other of the 12th, containing detached parts of the gospels, and of St. Paul’s epistles.

BORGIAN, in *Geography*, a town of Perizia, in the province of Segeliam, 90 leagues south of Zareng.

BORGIANI, ORAZIO, or HORAZIO, in *Biography*, a painter of history and portraits, and an engraver, was born at Rome in 1630; instructed in the art of painting by his brother, Giulio Borgiani, called Scalzo; and by studying the capital performances of ancient and modern artists, in his native city, he made such progress in his art, that his works were held in high estimation in Spain, where he resided for some time. Upon his return to Rome, he was employed in considerable works for chapels and convents, and also in painting portraits, by which he acquired honour, and lived in affluence. His etchings were performed in a bold and free manner; and more finished than usual, when considered as the works of a painter. His drawing is not correct; but the style is masterly, and the effect agreeable. His most finished etching is said to be a “dead Christ,” with the figure very much foreshortened, and behind the two Maresias and St. John, who is killing one of the hands of our Saviour; from a composition of his own, dated 1645. His death, which happened in 1681, was occasioned by the malicious treatment of an envious competitor and contemporary, whose name was Celio. Pilkington and Strutt.

BORGIE, in *Geography*, a town of Africa, in the province of Zeb or Zebib, about 5 leagues from Bicara; a town much more populous than the latter, and the residence of a great number of merchants, mechanics, and labourers of all kinds.

BORGLUM, a prefecture of Denmark, in the diocese of Aalborg, including 14 parishes.

BORGNE, I.E., a town on the north side of the northern peninsula of the island of St. Domingo, 3 leagues west by north from port Margot, and 8 sail by south from Port de Paix. N. lat. 19° 49’.

BORGO, a town of Sweden, in the province of Nyland, in the gulf of Finland, 21 miles N.E. of Helsingford. This is an ancient sea-port, with an indifferent harbour, a bishop’s See, and a good fermy. The inhabitants trade in all kinds of linen. Borgo gives name to a distriet.

BORG, a town of the Tyrol. N. lat. 46°. E. long. 11° 30’.

BORGODES, in *Ancient Geography*, a people placed by Pliny in Arabia Felix.

BORGOFORTE, in *Geography*, a town of Italy, in the duchy of Mantua, at the conflux of the Oglio and the Po; 8 miles S.S.W. of Mantua.

BORGOFRAICNA, a place of small note in the principality of Piedmont, and marquisate of Ivrea, 22 miles north of Ivrea.

BORGIO DI FORNARI, a town of Italy, in the republic of Genoa; 10 miles north of Genoa.

BORGIO MANERO, a small place in the duchy of Milan, and distriet of Novara; 12 miles N.N.W. of Novara.

BORGIO DI ST. DOMINO, a small town of the duchy of Placentia, though it is the see of a bishop, suffragan of the archbishop of Bologna, and the capital of the distriet; 12 miles N.W. of Parma.

BORGIO DI ST. SEPOLCRO, a town of the duchy of Tuscany, situated near the source of the Arno, on the borders of the ecclesiastical state, with a fort on a rock; the see of a bishop, suffragan of Florence, and city of the pope; 48 miles E.S.E. of Florence, and 12 N.E. of Arezzo.

BORGIO DI SERRA, a town of the duchy of Milan, in a district called “Val di Sèfia;” 22 miles N.W. of Novara.

BORGIO DI VAL DI TARO, a town of the duchy of Placentia, seated on the river Taro, in the district called “Val di Taro;” 23 miles S.W. of Parma.

BORGSTALL, a town and bailiwick of Germany, in the circle of Upper Saxony, and Old March of Brandenburg; 12 miles S.S.W. of Stendal.

BORKA, or BORgression, a town of Spain in Arragon, seated at the foot of an eminence near Cayo, and in a country which produces plenty of grain, wine, oil, hemp, flax, and moifs kinds of eulcent plants; 34 miles W.N.W. of Saragossa.

BORKA, a town of Peru, situated on the head waters of the Amazon river.—Alto, a town in Brazil, on the southwestern bank of Uruguay river. S. lat. 29° 15’. W. long. 56° 50’.

BORIN, in ornithology. Under this name Aldrovandus, Ray.
Ray, Willoughby, and other old writers describe the paffarine varibr, *potasilla paffaria*, Gmel.

BORING, the act of perforating a solid body, or making a hole throughout its whole length or thickness.

Surgeons speak of boring the bones of the skull, properly called trepanning.

*Boring Birch*, and other trees, is practised in the spring for their juice, called also tapping and bleeding. Phil. Trans. N° 44. p. 880. See Betula.

Boring, in *Farriery*, an operation formerly practised for the cure of horses whose shoulders are wrenched. The method is thus: they cut a hole through the skin in the middle of the shoulder, and with the flanks of a tobacco-pipe, blow it as a butcher does a shoulder of veal; then they run a cold flat iron, like a horfeman's sword-blade, eight or ten inches up, between the shoulder blade and the ribs, which they call boring; after that they burn him round his shoulder with a hot-iron. This, says Bartlett, is an absurd and useless, as well as a cruel practice.


*Boring of Mills*, from top to bottom, is proposed by Dr. Hook, as a means of strengthening and preferring them; as this would make them dry and harden the better, and prevent their cleaving and cracking. For want of this, the outside drying, when the inside does not, the former shrinks faster than the latter; the consequence of which is prejudicial.

*Boring*, in *Mineralogy*, a method of piercing the earth by a set of scooping irons, made with joints so as to be lengthened at pleasure. The skilful mineralist will be able to guess where a vein of ore may lie, though there are none of the common outward signs of it upon the surface of the earth; and in this case he has recourse to boring; the scooping irons are drawn back at proper times, and the samples of earth and mineral matters they bring up, are examined; and hence it is known whether it will be worth while or not to open a mine in the place. See Coal.

*Boring*, in *Rural Economy*, a practice sometimes employed in order to ascertain the nature of the different strata that lie beneath the surface soil; and also for the purpose of discoverying springs, and tapping them, so as to draw off the water that injures the grounds below, or in the neighbourhood. When this last object is in view, boring is generally performed in the bottoms of ditches or drains, previously made in the land, to the depth of several feet. See Draining of Land.

*Boring Auger*, an implement employed for the purpose of boring the soil, and letting off water confined beneath it, &c. See Borer.

*Boring of Water-pipes*. The method of boring alder poles for water-pipes is thus: being furnished with poles of a fit size, horfes, or trefills are procured of a due course, both to lay the poles, and ret the augre on in boring; they also set up a fath, whereby to turn the lesser ends of the poles, and adapt them to the cavities of the greater ends of others, in order to make the joint fit each pair of poles together. The outer, or concave part, is called the female, and the other, or inner, the male part of the joint. In turning the male part, they make a channel, or small groove in it, at a proper distance from the end; and, in the female part, bore a small hole to fit over this channel; they then bore through their poles, flicking up great nails at each end, to guide them right; but they commonly bore a pole at both ends; so that if it be crooked one way, they can nevertheless bore it through, and not spoil it. Neve Build. Dict. in voc. Alder.

This operation is now performed with a horf-mill, as at Donlet Stairs for the New River company.

Belidor, in his *Hydraulics*, has described a machine in which a water-wheel is made use of both to turn the augre, and to bring forward the carriage on which the pipe to be bored rests. This machine (see T. II. *Mechanica*, f. 67.) is put into motion by the water-wheel A, in the axis of which there is a cog-wheel B, that turns the lanterns C and D; the pendulums D turn two small wheels F and F': the fulc of which is vertical and turns the augre; the other is horizontal and moves the carriage by means of the two arms H and L. H draws the wheel G towards F; and it presses it in a contrary direction; and these combined actions cause the carriage to advance towards F, and the augre to bore the pipe. The augre being about twelve feet long and proportionally heavy, is supported by the pieces L L; and they are prepared so as to give no obstruction, in the following manner: C C, (fig 63.) are two planks of wood which are fastened to the timber-work of the mill; these encompass another plank, hung by a cord, at the bottom of which are fixed the pieces b b, with joints at c and e; and, that they may not move out of the vertical plane, they are joined by tenons to the plank a, in which they may work freely: on the side of one of these pieces is fixed a spring, g, in order to hinder them from uniting, by forcing them into a mortise, in d; in this situation the two pieces are penetrated with a hole through which the augre is to pass. The cord is fastened to the plank a, as in fig. 69, and goes over the two pulleys b b; at the other end of the cord there is hung a weight e, resting on the piece N, which is supported at one end by the piece O, and fixed to the other by a joint to the lever K, which has its centre of motion in the piece of wood H; so that, leaning against the extremity M of the lever, N quits the support O, the weight sinks down, and draws up the piece a; then the sides b b, fig. 68, quit the mortise d, and the spring g separates them; and thus the supporter does not in the least hinder the motion of the augre.

**Borjoktit**, in *Geography*, a town of Poland, in the palatinate of Podolia; 28 miles call of Kaminicze.

**Boriuen**, See Bier.

**Boriquettta**, a province of South America, in the country of Terra Firma.

**Borissolens.** See Barissoglesben.

**Borith**, in the *Holy Scriptures*, an herb thought to be the kaly, or fallwort; of the ashes of which some make soap, and a very good key to wash linen with. It is mentioned in Jeremiah, chap. ii. ver. 22.

**Borkah**, or *Ardu*, in *Geography*, an ancient empire of the Ascanian Turks, which extended on this side of the Volga from Ubiec, near Saratof, quite to mount Caucassus. Some of thise were called Kunemi or Komai, from the river Kunne, and their town was named Kumage.

**Borkan**, a town of Perias, in the province of Larilian, 64 miles S.W. of Lar.

**Borkeloe.** See Borkelo.

**Borken.** See Borch.

**Boren**, a bailiwick of Germany, in the landgrave of Helfe, confilling of eight villages, and a small town of the same name, become almost extinct.

**Borknowka**, a town of Poland, in the palatinate of Podolia, 20 miles W.N.W. of Kaminicze.

**Borla**, William, in *Biography*, an eminent topographical writer, was born of an ancient family at Pendeen, in the parish of St. Juft, Cornwall, in 1666; and having finished his grammatical education at Penranc, Tiverton, and Plymouth, was entered at Exeter college, Oxford,
ford, in 1713; where, in 1719, he took the degree of master of arts. In the following year he took priest's orders, and in 1722 was inducted to the rectory of Ludgvan in Cornwall, on the presentation of the duke of Bolton; and this, with the vicarage of his native parish, was the only preferment he ever obtained. At Ludgvan his situation was pleasant and retired; and he applied with exemplary industry to the duties of his profession, and to those studies of natural history and antiquities, to which his inclination led him. The parish of Ludgvan abounded with mineral and metallic fossils; and the various parts of Cornwall presented to his research many judicial remains. To these objects his attention was directed; and he commenced his literary career with "An Essay on Cornish Crystals," which he communicated to the Royal Society, and which produced his election into that society in 1749. In 1754, he published, in folio, his "Antiquities, historical and monumental, of the county of Cornwall, consisting of several essays on the ancient inhabitants, Druid superlision, customs and remains of the most remote antiquity in Britain and the British isles, exemplified and proved by monuments now extant in Cornwall and the Scilly islands; with a vocabulary of the Corn-British language;" a learned and judicious work, free from long digressions and fanciful hypotheses, in which antiquarian writers have indulged themselves. A second edition of this valuable work, with several additions, a map of Cornwall, and two new plates, was published at London, in 1769. His next publication was "Observations on the ancient and present state of the islands of Scilly, and their importance to the trade of Great Britain," 4to. 1756. This was followed, in 1758, by his "Natural History of Cornwall," which was justly considered, at the time of its publication, as a very important accession to the mineralogical history of Great Britain. Soon after this publication he presented to the Ashmolean museum at Oxford, a variety of fossils and remains of antiquity, for which he received the thanks of the university, and the honour of the degree of doctor of divinity. Having completed his three principal works, and attained the age of more than 60 years, he persevered in his application to his favourite studies, and in his diligent discharge of the duties of his profession. His communications to the Royal Society were very numerous; and some or other of his papers may be found in its Transactions from the year 1750 to 1772. With a view to his own amelioration and improvement, rather than with any design of publication, he composed paraphrases on the books of Job and of Solomon, and wrote other pieces of a religious kind; and he prepared for the press a treatise, which he had written some years before, concerning the "Creation and Deluge," but increasing infirmities prevented its being printed. His decline commenced with a fever in feb in the beginning of the year 1771, and terminated in his decease on the 31st of August 1772, in the 77th year of his age. He was much esteemed by all who knew him, as a kind father, affectionate brother, sincere friend, instructive pastor, and good citizen; and as a man of condition whose life had been devoted to important and useful pursuits. He had fix sons, two of whom survived him, and they were both in the church. Dr. Borlace furnished Mr. Pope's grotto at Twickenham with a great number of the materials that were used in forming it. In Mr. Pope's letter of acknowledgment, he says, "I am much obliged to you for your valuable collection of Cornish diamonds. I have placed them, where they may be seen by yourself, in a fiddle, but shining," alluding to the obliquity of the donor's situation, and the brilliancy of his talents. B. Brit.

BORMES, in Geography, a town of France, in the department of the Var, seated on the coast of the Mediterranean, near a flat shore, which serves for a port; and a basin, which cannot reach the gulf of Hiero before a temporary estuary, 3 leagues E. of Hiero.

BORMIDA, or Bormia, a river of Italy, which runs into the Tanaro, near Alexandria.

BORMIO, a county in the territory of the Grisons, lying at the foot and in the midst of the Rhetian Alps, and bordering upon Engadins, the valley of Munster, the Valteline, Tyrol, Trent, and the Venetian territories. It is entirely inclosed within the mountains, except a narrow opening, which connects it with the Valteline; the other access to it lies across the rugged Alps, and in winter are frequently impassable. This country, which was once a part of the Milanece, became subject to the Grisons in 1512. (See Valteline.) It is divided into five districts; viz. Bormio, comprising the capital and several dependent villages; the valley of Vurba; the valley of Pedinofo; the valley of Cepino; and the valley of Luvino. In the new division of Switzerland, since the French revolution, the county of Bormio, with the Valteline and Chiavenna, form a part of the Cisalpine republic. Whilst it remained under the government of the Grisons, its inhabitants were exempt from the oppressions exercised by the Grison governors in the other countries subject to their dominion. They paid a fixed and moderate contribution; they collected and enjoyed their own duties upon exports and imports, and were thus secured from injudicious and oppressive taxes; the fines for criminal offences belonged to the community; and as no part was assigned to the governor, he was not interested in convicting criminals; and the chief privilege, which distinguished this country from the Valteline, was the freedom of its government, and the limitation of the podesta's authority.

The supreme magistracy of Bormio, called "Podetta," was sent from the Grisons, and continued two years in office; his authority was very circumscribed, and his power was almost wholly dependent on the concurrence of the councils. In those councils he never gave a vote, except in cases of equality; he imposed not the power of arresting a criminal, nor of pardoning or levying the punishment. His annual stipend of about 80l. arose partly from a payment of money, partly from an allowance of rye, and partly from the evils of theft and criminal causes. The supreme authority resided in the podetta, and councils, consisting of a civil and criminal tribunal, the members of which were annually chosen by the people. The criminal court, or council of sixteen, changed every four months, consisted of two regents, the treasurer, the notary, and 16 councillors, of whom ten were taken from the town, and two from each of the valleys of Vurba, Pedinofo, and Cepino. This council was convened by the podetta, at the request of the two regents. In order to arrest a criminal, it was necessary to assemble the whole council, or at least seven of the members; in other important cases, the podetta and two regents might give an order of arrest; but this was deemed contrary to law. The process, conducted by the podetta and two regents, was laid before the council; and upon conviction of the criminal, provided he did not confess his crime, the majority of the council determined whether the evidence was sufficient to justify torture; which was applied in the preference of the podetta, the two regents, the treasurer, and notary. If the proofs were insufficient for conviction, the podetta and councillors received nothing for their attendance; a regulation, which sometimes induced the judges to straiten flight circumstances into proofs of guilt; and not unfrequently occasioned the infliction of torture.

The civil tribunal consisted of twelve members taken from the
the town of Bormio; and from their decision an appeal lay to the syndicate of the Grifions.

The members of these councils were chosen annually by the assembly of the people. In the choice of the two regents, fix persons selected in a peculiar manner by the regent last in office and the treasurer, chose six members of the assembly, three from the district of Bormio, and three from the valleys, who appointed six candidates; the names were then thrown into fixed bags, and balled for; and the two, who had the greatest number of ballots, were regents, who remained in office only four months. The revenue of the country amounted in one year to 221. 14s. 4d.; and the average expenses to 212. 2s. 2d. The expenses and receipts are submitted, when the regents retire from office, to the council of fifteen, and cannot pass without their approbation.

The county of Bormio is about 15 miles in length, and 14 in breadth; and the inhabitants are estimated at about 14,000. The mountainous parts produce only pasture and wood; the lower districts in Bormio yield corn, but not sufficient for domestic consumption. The inhabitants export cattle, a small quantity of cheese, and iron, obtained from the mines of Freh, in the valley of Pechino, wrought at the expense and for the profit of a private person, who pays to the community a small annual rent. The honey produced in Bormio is esteemed excellent. Wine is imported from the Valcine, corn from the Tyrol, corn and rice from Milan, linen from Bergamo and Appenzel, and cloth from Germany. The air is cool, but pure and healthy. The established religion is the Roman Catholic; and the exercise of every other worship is prohibited. Spiritual affairs are under the jurisdiction of the bishop of Coire, who has a vicar's court at Bormio, in which all ecclesiastical causes are tried. The priests have peculiar privileges, which are extended even to those who wear a clerical dress. Most of the peasants possess a small portion of land, and, in consequence of the freedom of the government, are happier than the people of the Valcine and Chiavenna. Coxe's Travels, vol. iii.

Bormio, the capital of the county of the same name, is situated at the foot of the mountains, close to the torrent Fredolfo, which falls at a small distance into the Adda. It contains about 1000 inhabitants, but has a desolate appearance, the houses are of plastered stone, of which some make a tolerable figure, amidst many with paper windows; and several, like the Italian cottages, have only wooden window shutters. The palazzo, or town-house, contains a suite of wretched rooms for the residence of the podesta, a chamber for the courts of judicature, and an apartment where the representatives of the people assemble. In one of the rooms is an engine of torture, which, in defiance of common sense as well as humanity, is still used in these countries to force confession. The archives are kept in an apartment, the door of which has several keys; so that all the magistrates, who are entrusted with them, must be present, whenever it is opened. The most important of the papers kept in these archives is the charter, by which the Grifions confirm, in the most ample manner, the immunities granted to this country by the dukes of Milan; it was passed in the diet of Tintz, under Paul, bishop of Coire, in 1513, the year succeeding that in which the Grifions annexed Bormio to their dominions. Many circumstances have concurred to deter the Grifions from infringing this charter; the two principal are, the situation of Bormio on the confines of the Tyrol, whence they might receive assistance from the house of Austria; and the spirit of freedom which distinguishes the inhabitants, who have watched with a jealous eye the light-
mented with those of the French revolution. The emperor Joseph feems to us at this time not to have been adecive to such co-
adjutors; and he appeared to be pleased with a witty and popular publication of Born, in 1783, entitled "Monacholo-
logia," which was a severe attack on the monks, whose he charac-
terized in the technical language of natural history, under the regular division of order, genera, and species, ufed in the Linnean school. The clergy complained, and their complaints were retorted by Born with more bitter farces, exceeding the bounds of prudence and candour. He de-
defended his associates, the "Illuminati," with great zeal; and when the elector of Bavaria ordered an order to dismiss all of this fraternity from his service, Born returned to the academy of Munich the diploma by which he had been admitted as one of its members. The emperor Joseph gradually withdrew his support from these reformers, whom he had at first encouraged; and Born's continued influence was principally owing to his skill in mineralogy and metallurgy, by which he was capable of rendering service to the state. In the pro-
cess of extracting the noble metals from their ores, by amalg-
amation with quicksilver, he manifested his superior skill; and to this purpose, a decisive experiment was performed at Chemnitz, by the emperor's order, in the presence of Char-
pentier from Saxony, Ferber from Russia, Elhijar from Spain, Podà, and other celebrated chemists, which met with univer-
sal approbation, and established the utility of his discovery.

In 1786, Born published, at the desire of the em-
peror, his treatise on amalgamation; and in the following year, a farther account of it was published by his friend Fer-
ber. As a considerableaving in wood, time, and labour, attended his proc-
s, the emperor gave orders that it should be em-
ployed in the Hungarian mines; and as a recompense to the inventor, a third of the profit that should be gained by adopting his method was granted to him for ten years, and for ten years more the interest of that sum. Such, however, was the hospitality of Born, and his readiness to admit and entertain all travellers, and to patronize diffident talents of every kind, that his expenses exceeded his income, and he was at last reduced to a state of infolvency. Amidst all his bodily infirmities and pecuniary embarrassments, and not-
withstanding the variety of his official avocations, he was in-
defatigable in his literary pursuits; and in 1790, he pub-
lished in two volumes, a "Catalogue methodicae rafonem," of Mifs Raub's collection of toffils, which is regarded as a clas-
ical work on that subject. He employed himself also in bleaching wax by a new chemical process, and in boiling salt with half the wood commonly ufed for that purpose. Whilst he was engaged in writing the "Faft Leopoldina," or a history of the reign of Leopold II, in classical Latin, and a work on mineralogy, his diseafes rapidly advanced, and being attended with violent pafms, terminated his life on the 28th of Augulf, 1791. Townforn's Travels in Hungary, 4to. 1796.

BORN, in Geography, a town of France, in the depart-
ment of the Lot and Garonne, and chief place of a canton, in the district of Villeneuve d'Agen; 13 leagues N.W. of Montfaucon.

BORKA, a town of Germany, in the circle of Upper Saxony, and territory of Leipic, leated on an iland formed by the rivers Wicuri and Pleis. The inhabitants are chiefly employed in manufacturing stuffs; 12 miles S.E. of Leipic.

BORNE, a river of England, which runs into the Tame, about a mile S.W. of Tamworth. - Also, a river of Savoy, which runs into the Arve, about two miles north from Bon-
reville.

BORNEO, an iland of the East Indies, which, before
the discovery of New Holland, was considered as the largest
iland in the world. This iland seems to have been the
Greater Java of Marco Paulo, which, he says, is about 3000
miles in circuit, being above 900 miles in length by 600 at
its greatest breadth. The latest and best account that has
yet been given of this iland is published in the Transactions
of the Batawan Society. The iland of Borneo extends from
the 4th degree of S. lat. to the 8th of N. lat. and from 109°
in length, and 720 in breadth. Its climate is almost the same as that of Java;
but Borneo is lefs mountainous, and the land, for 12 or 15
miles, and sometimes more, from the coast, is almost
every where marshy, and covered with forests of trees of
large fize, and of various kinds. The remaining part of
the iland is sufficiently fertile, and would be productive, if
the inhabitants were not too indolent to cultivate the soil,
and fonder of searching for gold and diamonds, which they
barter with the Javanele for various necellaries of life. The
middle of the iland is occupied by an extensive ridge of
mountains, called the "Crytal mountains," because a great
quantity of crytal is found in them. At the foot of these
mountains is a large iland lake, which is the source of all
the rivers that traverse the whole iland. The real natives
of this iland are the Bidjous, or Biajoos, or Dajakkee,
who live in the interior parts of the country. The sea-coafl
is inhabited by Malays, Moores, Macafers from Celebes, and
Javanele. We have accounts, on which we may depend,
only of the countries fronted along the coal; the interior
parts of the iland being little known. The largel kingdom
in the iland, and the most important on account of its con-
nection with the Dutch East India company, is that of Baj-
jermafling on the southerm coal. The great river Pontiana,
which is navigable for ships that draw from 12 to 13 feet of
water, is very convenient for trade. The fultan Sulthunan
Natalaham, since the year 1771, has transferred his residence
from Cagn-Tangie to Martapura, where he caused a large
city to be built, and a canal to be dug, which pafes through
the middle of it, and at the fame time he changed the name
Martapura into Dumie-Kintjana. The inhabitants of the
city, as well as those who relieve at places in a distance
from the coal, are Mahometans, mixed with a great many Bid-
joos, or Dajakkee, who are Pagans. These Bidjoos,
who inhabit villages, amounting in number to 784, are sub-
ject to various petty princes, who acknowledge the fultan
as their superior. The factory of the Dutch East India
company is situated at the end of the village of Tatas, or
Banjermafling. Their fort is of an octagonal form, sur-
rounded by palisades, which on the east side next the river
is furnished with three, and on the west, or land side, with
two ballions. The productions of the country, which are
fought for as articles of commerce, are pepper, gold (chiefly
gold-dul, not very abundant in metal), diamonds, cane,
birds-neils, wax, pedra del porco, dragon's blood, and iron.
For the Dutch give in exchange agates of a longish
form, rings of red agate, different kinds of coral, all sorts
of Chinese articles, fuch as coarse porcelain, red and other
kinds of silk, all sorts of cotton cloth, fuch as is worn by
the Indians, and the productions of Java, and also gunpow-
der, which, being prohibited by the fultan, is privately intro-
duced. See BANJERMAFLING.

Sucentana lies in 0° 50' S. lat.; and a little north of it is
the river Pontiana, which discharges itself into the sea under
the line, through a great many mouths. At its mouth it is
12 feet in depth, and at high water 16, so that fhips and
small vessels can proceed with great ease in about 12 hours
to the company's factory. The river, at the dilance of
about seven or eight miles from its mouth, separates into
two branches; the southernmost of which flows through the country governed by Pangarang (a term of dignity) Jofep, who, in 1779, was advanced by the company, to be Sultan of Safango and Pontiana, under the name of Sarief Abdulla Rachman. These two kingdoms extend far into the country; and produce excellent gold, wax, birds-nests, pearls, fago, diamonds, tin, and iron, which are bartered for provisions of all kinds and cotton cloth, but particularly rice and salt. Heavy rains prevail here from November till May; and the thermometer is never lower than 82°, nor higher than 94°.

Landac lies on the northern arm of the river Pontiana, in N. lat. 0° 35'. The Dutch had a resident here 150 years ago. After that period their possessions were destroyed, till the king of Bantam, to whom Landac and Succiata had for many years belonged, made a grant, either voluntary or by compulsion, to the company of all the lands in 1778. From this time the Dutch have considered these lands as their property, and the princes who govern them as their vassals; they then built a fort at Pontiana, between Landac and Succiata, and appointed Pangarang Saidja Nata, as regent of the whole district. The residence of the prince of Landac is situated on the projecting point of a mountain, to which there is an ascent by 115 steps. Two rivers, which are so full of rocks that no vessels can be navigated in them, flow on the right and left of this mountain; and the place is naturally impregnable. It is also well garnished with artillery. In this kingdom there are gold and diamond mines of considerable importance.

Between Landac and Borneo, the most northern kingdom of the island, and from which, probably, the whole country took its name, there are several smaller kingdoms, not yet sufficiently known. Their regents are, in part, vassals of the sultan of Borneo. A small trade is carried on in these districts with gold, diamonds, canes, wax, and other articles of the like kind, which are given in exchange for the productions of Java; but the traffic is unimportant and precarious, as the princes of this part of the country live by piracy.

Borneo is governed by a sultan, who resides in this place, where a considerable trade is carried on with the productions of the country, which are pearls, birds-nests, wax, flaves, rice, and camphor. The camphor of this island is preferred even to that of Sumatra. The camphor of Borneo and Sumatra is produced by a tree with oval, sharp-pointed leaves, and large tulip-like flowers. It is thus distinguishable both from the camphor-tree of Japan, and from the other species of the laurel. An hundred weight of the camphor of Borneo costs 3000, and one of that of Sumatra 2000 rix-dollars, but the Japanese costs scarcely 50. Of the camphor of Borneo about 4375 pounds are annually exported. The articles imported are tin, cotton-cloth, and all the productions of Java, except rice, which is cultivated here in great abundance.

The Sultan of Borneo lives in great state, and is more feared by his subjects than that of Banjer; but he is said, by those who frequent this part of the coast in small vessels to exchange cotton-cloth for pepper, to be more content in his friendship, and more faithful in fulfilling his engagements.

Between Borneo and Tidor lie the two small kingdoms of Balangan and Baranoo, where birds-nests, wax, &c. are exchanged for Japanese productions, and a fort of coarse cotton-cloth. Next to these is Danmar, and a little farther are Simnunta, and Cotte. Between the two last are many villages, the names of which are not known. The same articles are exported and imported here as at Borneo.

The next place is Appar Karrang, and the last kingdom is Pusifer. The articles of trade in this country are gold, birds-nests, wax, and canes, which are exchanged for the productions of Java. The inhabitants of Pusifer are few in number, and therefore they have been unable to expel the Bugineese, who have made themselves masters of the river, and also of the trade. Further south lies Simpanan; and the whole country from this place to the extreme boundaries of Salutang belongs to the king of Banjer-malling, who possesses also the great and small island Pah-Lauts. There appear to be no other kingdoms in the interior part of Borneo; or, at least, they are not known. The inhabitants of the mountains bring the productions of their lands, and their different articles of manufacture, to the nearest part of the coast for sale.

The most productive diamond mines of Borneo are at Ambawang, beyond Mohucco, in the district of Banjer-malling, and at Landac and Pontiana. Besides these mines, which lie among the mountains, diamonds are also searched for on the banks of various rivers; but they are so scarce that ten or twelve persons may dig and search sometimes for a whole month before they find diamonds to the value of 20 Spanish rials. With regard to the gold mines, the ignorance of the natives as to everything relative to mining is such, that little advantage is derived from them, though they are supposed to be very rich. In Banjer-malling the gold is found at the depth of about three fathoms; the veins properly so called are of a reddish kind of mud. At Landac the ore is found at the depth of about ten feet, under a crust resembling rotten wood. Of the animals of Borneo the most remarkable is the orang outang.

The Biadoos or Dajakkese, who are the native inhabitants of this island, and principally occupy an extensive district in the interior part of the country on the west side of the river Banjer, are of large stature, and well formed, and their women, whom they never bring to the places of trade, are said to be fair and handsome. In their dresses they resemble the Malys. The women, and even the wives of their princes, are naked to the middle, and generally wear round the body only a short gown. The men paint their bodies with various kinds of figures. They come to Banjer to sell their gold, canes, and rice, for which they receive in exchange coarse Chinese porcelain, copper, and earthen vessels or tappanyangs, on which are represented dragons, snakes, and other figures suited to their taste. Before any one of the Biadoos can succeed in obtaining a female for his wife, he must give proof of his courage by cutting off the head of an enemy; and when he is accepted by the parents, he carries to his bride a present, which consists of a male or female slave, two dresses, and a water-pot, on which some of their favourite figures are exhibited. On the wedding day, the bride and bridgroom give each a feast at their respective houses; at the conclusion of which, the bridegroom, in his best apparel, is conducted to the residence of the bride, at whose door is one of her relations, who finesses him with the blood of a cock, which has been killed for that purpose; and the bride is fined in like manner with the blood of a hen. They then present to each other their bloody hands, and the solemnity is closed with a feast. If the wife die, the husband cannot contract a second marriage until he has cut off the head of some individual of another nation, and thus avenged the death of his wife. When a married woman commits adultery, the husband, without avenging himself on the adulterer, puts to death two or three of his slaves, and thus frees himself from all shame; the woman is punished merely with words, but sometimes with blows. The Biadoos are unacquainted with polygamy.
polygamy. If a man willies to separate from his wife in consequence of her having committed some crime, he retains her clothes and ornaments, and makes her pay a fine amounting to about 20 gold-ricks; and each party is then at liberty to marry. When a Bajjajo dies, the body is put into a coffin, and kept in the house, until all the remaining males in the family have purchased a slave; who is beheaded on the day when the body is burnt, that he may attend the decent in the other world; and before he is put to death, he is enjoined fidelity to his master. The ashes of the deceased, together with the head of the slave, are put into a watering-pot, and deposited in a small edifice or tomb constructed for that purpose. Sometimes a whole year elapses before a slave can be procured. The houses of the Bajjajos are constructed of boards joined together without windows or partitions, except that which separates a small corner in which they sleep. The whole family reside together with their slaves, and confit sometimes of 100 persons. Their only light is that of a piece of pine-wood, which burns no longer than till about eight in the evening. Over their doors they suspend the bloody heads which they cut off in their skirmishes. In order to procure these they proceed, with great secrecy, to the river Banjer, and surprise in the night, or attack, in open day, some small vessel belonging to Banjer fishermen; and one or two of their unfortunate captives are then destined to become a sacrifice to their insatiable rage for murder. When they return with a head, the men, women, and children of a whole village tellify their satisfaction by every demonstration of joy. Gongs, or musical instruments of copper, are beat by those who conduct the conqueror to his own house, where the women dance around him, and taking from him the head, they force into the mouth some food and drink; after which ceremony, accompanied with a repast and dance, they hang it up as a trophy of victory. Before the Bajjajos undertake expeditions in quest of Banjerefe heads, they endeavour to deduce some omen of good or bad fortune from the flight of a kind of hawk (Falco milvus). They have a scarcely any form of government, and no written laws. If a person be accused of theft, and no sufficient proof can be alleged against him, the culprit and the accuser are carried before one of the oldest inhabitants. An earthen pot with ashes and water is placed on the ground; and across the pot is laid a piece of wood, upon which are deposited two small copper buttons. An oath having been administered to each party, the piece of wood is so turned round that the buttons fall into the water; the accused and the accuser take up one of these buttons; and he, whole button appears as if scooped and whitened by the ashes, is deemed to have succeeded. The Bajjajos are said to have some idea of a supreme being, to whom they address prayers under the name of Dewatta; and as they believe that this Dewatta not only created, but still preserves and rules the world, they request him to grant them happiness and prosperity. If we may judge from the character of these people, their deity must be a gloomy and revengeful being; no nation on earth having a greater propensity to murder and revenge. The Bajjajos acknowledge the sultan of Banjer as their sovereign, and pay him yearly a small tribute in gold dust of the value of 20 rials. The Portuguese, Dutch, and English have ever since the 16th century endeavoured to establish themselves in this island; but the Dutch have been the most successful. The Portuguese, it is said, wished to form a settlement here in 1526, and with this view presented to the sultan of Landac and Succatana some beautiful pieces of tapestry, on which curious figures were wrought; but the sultan, conceiving these figures to be animated or magick, and apprehending that they might rush suddenly from the tapestry and strangle him, rejected the present and expelled the Portuguese from the country. The English were not much more fortunate, having quitted Borneo entirely ever since the year 1766. In 1769, they made an attack to form a settlement in the island of Balambanga, at the N. extremity of Borneo, which was given up to them by the king of Solon. They placed in it a few Europeans for the sake of trade, and a garrison of 200 soldiers, Europeans and blacks; and intended to establish a factory, where they might exchange the productions of Europe and Hindostan for those brought hither from China and the Indian islands; but in the year 1772, after a part of their troops had been swept off by contagious diseases, the fort they had constructed, being badly fortified, was suddenly attacked, and the whole establishment destroyed. The English have still some establishments on the north coast of Borneo; and the circular Indian nations, and the Chinees carry on a great trade with this island. About Borneo are several small islands, that may be denominated the "Bornean islands," such as the Soloos, Tauve, Pulo Laut, Anamba, Natuna, &c. BORNEO, a fen-port and capital of the island of this name, is large, populous, and commercial, with a good harbour; it consists of about 300 houses, built on piles, and is situated on the N. W. side of the island. N. lat. 4° 30'. E. long. 115° 6'. BORNEVALT, a town of Germany, in the circle of Wefphalia, and duchy of Berg; 3 miles W. of Lempen. BORNEUS, in Ornithology, the long-tailed scarlet lory. This beautiful bird is of a red colour; quills and tail feathers at the tips green; a blue spot on the wings; orbits fuscous. Inhabits India. The length of this bird is nine inches and a half. Its bill is orange; orbits of the eyes bare of feathers; quill feathers with blue and green dots; the two exterior feathers inclining to green; lower tail covert red, bordered with blue. Gmel.—Lori peruvius rubra, No. I. Buff. Psittaca eucincus bonarum fortunaris infals. Briff. BORNEHEIM, a village of Germany, in the circle of the Upper Rhine, and territory of Franckfort on the Main; 10 English miles N. of Franckfort. This village is said to be notorious all over Germany for its numerous brothels. Tender's Tour. BORNHOLM, an island of Denmark, in the Baltic sea, the remotest and most easterly of all the Danish islands, about 18 miles in length, and 10 in breadth. Although it is nearly surrounded by rocks, and the soil is floucy, it is a fertile spot, abounding with excellent pastures; oats, butter, and flax constitute the wealth of the inhabitants. There are some mines of coal and quarries of marble. It was conquered by the Swedes in 1645, and surrendered to them by the treaty of Roskild, in 1658; but the inhabitants revolted in the same year, and restored their island to the Danish dominion, under which it has since continued. Bornholm is distant 75 miles from Zealand, and 15 from the coast of Schonen. N. lat. 50° 12'. E. long. 15° 20'. BORNII, in Conchology, a species of Tellina, figured by Born. This shell is transfusely tinted, bent on one side, and reddish, with red rays. This is three quarters of an inch long, and two inches broad. The native place is not known. BORNOU, in Geography, an extensive kingdom of Africa, lying south-east of Fezzan, and bounded on the north by the desert of Bilma, on the west by Kuka, Tagua, and Nubia.
Nubia, on the south by Kaua and Begamenc, and on the west by Zegzeg, Zanfara, and Kaffina. The name Bor-nou, which is given to this kingdom by the natives, is distinguished in Arabia by the appellation of Bornon, or Bornou, signifying the land of Noah; for the Arabs conceive, that, on the first retiring of the deluge, its mountains received the ark. This is a country of great extent, being comprehended between the 16th and about the 22d degrees of N. latitude. The climate is characterized by excessive, but not uniform, heat. Two feasons divide the year; one commencing about the middle of April, and introduced by violent winds from the S. E. and S., intense heat, a deluge of rain, and such temp'ls of thunder and lightning as destroy many cattle and people; at this time the inhabitants confine themselves to their houfes; the rest of the feason, though sultry and rainy, does not hinder the labours of the husbandman and hfepherd. The other feason commences towards the latter end of October, when the heat becomes less intense, the air more cool and mild, and the weather fere. The inhabitants are numerous, and confift of various nations; and it is reported that thirty different languages are spoken in this empire. The language of the common people of Bornou, though different from, strongly resembles that of the neighbouring negroes, and is very unlike the Arabic, in which, however, the nobles and principal families converse. The art of writing is known among them; and they are taught to express the Bornou tongue in the characters of the Arabic. They are entirely black, but not of the negro call. Their general drefs is composed of shicts of blue cotton, manufactured in the country; a red cap, imported from Tripoli; and a white muffin turban, brought from Cairo by the pilgrims, who return through that city from Mecca. Nofe-rings of gold are also worn by the principal people, as a mark of distinction. Wheat and barley are feldom raised in Bornou; but the horse-bean of Europe, and the common kidney-bean are affiduously cultivated, as they are used for food, both by the females and by the cattle. They affo cultivate a kind of grain peculiar to the country; and the neighbour-hood of the city of Bornou is fettle in Indian corn and rice. Gum-trees are thinly scattered; cotton, hemp, and indigo are also to be reckoned among the various productions of its soil. In the culture of the ground, the hoe is the only instrument in use, as the plough is not known; and the f-men share with the men the labours of their husbands. The sowing feason commences at the end of the periodical rains in April; and fuch is the rapidity of vegetation, that one species of their grain is reaped in July, and another, of slower growth, in August or September. Two species of roots are used as subftral and wholesome food; one called the “doudoo,” whose leaves resemble those of the garden bean, is dried in the sun, and reduced to fine powder, which is mixed with palm oil into the confiftency of pate; and the other prepared for use merely by boiling. The fruits of Bornou are grapes, apricots, pomegranates, lemons, limes, and melons. The dates are scarce and indifferent, as are also the apples and plums; but it has a valuable vegetable, called “Kedeyah,” refembling the olive in form and height, and the lemon in its leaf, which bears a nut, whose kernel is an esteemed fruit, and felle, when bruised, yields an oil that supplies the lamps with a substitute for the oil of olives. To the caves of animals we may refer innumerable flocks of sheep, and herds of goats and cows, (for there are no oxen,) together with multitudes of hores, buffaloes, and camels, the flete of which is in high estimation, which cover the vales or paitures on the mountains of Bornou. The common fowl is reared by the inhabitants; and their hives of bees are fo numerous, that the wax is often thrown away as an article of no value in the market. Their game consists of antelopes, partridges, wild ducks, and the oilrich, the flesh of which they prize above every other. Their other wild animals are the lion, the leopards, the civet-cat, the small wolf, the fox, the wild dog that hunts the antelopes, the elephant, of which, however, they make no use, the crocodile, the hippopotamus, and giraffe. Bornou is much infected with different kinds of dangerous and disgusting reptiles, especially snakes and scorpions, centipedes and toads. Its bands of burthen are numerous and various; of which we may reckon the camel, the hore, the asl, and the mulle. The dog appears to be the only domestic animal. In Bornou the fame plan of constructing their houfes universally prevails. Four walls, including a square, are erected; within the walls, and parallel to them, four other walls are also built; the ground within the walls then divided into different apartments, and covered with a roof. Thus the space within the interior walls determines the size of the court; the space between the walls, limits the width of the apartments; and the height of the walls regulates the height of the rooms. In a large houfe the rooms are each about twenty feet long, eleven feet high, and as many in width. On the outside of the houfe, a second square or large yard, surrounded by a wall, is usually provided for the inclosure and protection of the cattle. The walls are generally composed of earth and sand, but others are formed of stones or bricks and clay; and the roofs of branches of the palm-tree, intermixed with brushwood, covered with layers of earth; and the whole building is white-washed with a species of chalk. The utensils of a houfe, among the lower claffes, are matts covered with a sheepskin, upon which they sleep; an earthen pot and pan; two or three wooden dishes, a couple of wooden bowls, an old carpet, a lamp for oil, and a copper kettle. Perfons of a superior rank also poifeft more numerous and various capabillofs, fluffed with wool, brass, and copper utensils, a handsome carpet, and a sort of candlestick, which is used for their candles that are made of their bees' wax and the tallow of their sheep. The current species of the empire consists of pieces of metal from an ounce to a pound in weight, formed of copper and brass, melted together and mixed with other materials. The ruling people in Bornou profess the mahometan religion, so that the sultan and his subjects are muflims, and the other claffes are pagans. The government is an elective monarchy; and the new sovereign, when chosen from among the sons of his predecessor, is invested with all the powers, and with two-thirds of all the court and land, of his father; the remaining third being always de- signed as a provision for the other children of the deceased monarch. To the four lawful wives of the late sovereign, a separate houfe with a suitable establishment, is granted by the reigning monarch; and such of his concubines, as were not slaves, are at liberty to return to their friends, with their clothes and ornaments, and with the permission to marry. The administration of the provinces of Bornou is committed to governors, appointed by the crown; and the expenses of the sovereign are defrayed partly by his hereditary lands, and partly by taxes levied on the people. The sultan Alli, who was the sovereign of Bornou, in 1789, though plain in his drefs, maintained a magnificent seraglio, accommodating 500 ladies, and was reputed to be the father of 350 children; and the number of horses kept for his own use and that of his servants, amounted to 500. The military force of Bornou consists in a great multitude of horemen, which renders him a much more powerful monarch than the emperor of Morocco; but his foot-soldiers are few in number, and of little importance. Their weapons of offence are the fabrics, the lance, the pike, and the bow; and a shield of hides forms their
polygamy. If a man wishes to separate from his wife in consequence of her having committed some crime, he retakes her clothes and ornaments, and makes her pay a fine amounting to about 30 rials; and each party is then at liberty to marry. When a Biradjoo dies, the body is put into a coffin, and kept in the house, until all the remaining males in the family have purchased a grave, who is buried on the day when the body is burnt, that he may attend the decease in the other world; and before he is put to death, he is enjoined fidelity to his master. The ashes of the deceased, together with the head of the grave, are put into a watering-pot, and deposited in a small edifice or tomb constructed for that purpose. Sometimes a whole year elapses before a slave can be procured. The houses of the Biradjoes are constructed of boards joined together without windows or partitions, except that which separates a small corner in which they sleep. The whole family reside together with their slaves, and confide sometimes of 50 persons. Their only light is that of a piece of pine-wood, which burns no longer than till about eight in the evening. Over their doors they suspend the bloody heads which they cut off in their skirmishes. In order to procure these they proceed, with great fecracy, to the river Banjer, and surplice in the night, or attack, in open day, some small vessel belonging to Banjer fishermen; and one or two of their unfortunate captives are then defined to become a sacrifice to their inimitable rage for murder. When they return with a head, the men, women, and children of a whole village tellify their satisfaction by every demonstration of joy. Gongs, or musical instruments of copper, are beat by those who conduct the conqueror to his own house, where the women dance around him, and taking from him the head, they force into the mouth some food and drink; after which ceremony, accompanied with a repast and dance, they hang it up as a trophy of victory. Before the Biradjoes undertake expeditions in quest of Banjerese heads, they endeavour to deduce some notion of good or bad fortune from the flight of a kind of hawk (Falco milvus). They have fearlessly any form of government, and no written laws. If a person be accused of theft, and no sufficient proof can be alleged against him, the culprit and the accuser are carried before one of the eldest inhabitants. An earthy pot with ashes and water is placed on the ground; and across the pot is laid a piece of wood, on which are deposited two small copper buttons. An officer, having been administered to each party, the piece of wood is so turned round that the buttons fall into the water; the accuser and the accuser take up one of these buttons; and he, whose button appears as if sovered and whitened by the ashes, is deemed to have succeeded. The Biradjoes are said to have some idea of a supreme being, to whom they address prayers under the name of D.watta; and as they believe that this Dewatta not only created, but still preserves and rules the world, they require them to grant them happiness and prosperity. If we may judge from the character of these people, their deity must be a gloomy and revengeful being; no nation on earth having a greater propensity to murder and revenge. The Biradjoes acknowledge the sultan of Banjer as their sovereign, and pay him yearly a small tribute in gold dust of the value of 20 rials.

The Portuguese, Dutch, and English have ever since the 16th century endeavoured to establish themselves in this island; but the Dutch have been the most successful. The Portuguese, it is said, wished to form a settlement here in 1564, and with this view presented to the sultan of Landac and Succatana some beautiful pieces of tapestry, on which curious figures were wrought; but the sultan, conceiving these figures to be animated or magic, and apprehending that they might rush suddenly from the tapestry and strangle him, rejected the present and expelled the Portuguese from the country. The English were not much more fortunate, having quitted Borneo entirely ever since the year 1706. In 1766, they made an attempt to form a settlement in the island of Balambangan, at the N. extremity of Borneo, which was given up to them by the king of Solon. They placed in it a few Europeans for the like of trade, and a garrison of 500 soldiers, Europeans and blacks; and intended to establish a factory, where they might exchange the productions of Europe and Hindostan for those brought hither from China and the Indian isles; but in the year 1772, after a part of their troops had been swept off by contagious diseases, the fort they had constructed, being badly fortified, was suddenly attacked, and the whole establishment destroyed. The English have built some establishments on the north coast of Borneo; and the circumjacent Indian nations, and the Chinese carry on a great trade with this island. About Borneo are several small isles, that may be denominated the "Bornean islands," such as the Solos, Tawea, Pulo Laut, Anamba, Natura, &c.

**Borneo.** The sea-port and capital of the island of this name, is large, populous, and commercial, with a good harbour; it contains about 350 houses, built on piles, and is situated on the N. W. side of the island. N. lat. 4° 30'. E. long. 115° 0'.

**Bornevalt.** A town of Germany, in the circle of Wellphalia, and duchy of Berg; 3 miles W. of Lemnep.

**Borneus.** In Ornithology, the long-tailed facettes lory. This beautiful bird is of a red colour; quills and tail feathers at the tips green; a blue spot on the wings; orbits fuscous. Inhabit India.

The length of this bird is nine inches and a half. Its bill is orange; orbits of the eyes bare of feathers; quill feathers with blue and green dots; the two exterior feathers inclining to green; lower tail coverts red, bordered with blue. Gmel.—Lori peruvius rossus, No. 1. Duff. Ptilina eversa bonare bonarum fortunarium infula. Driff.

**Borneheim.** A village of Germany, in the circle of the Upper Rhine, and territory of Frankfort on the Mayne; 6 English miles N. of Frankfort. This village is said to be notorious all over Germany for its numerous brothels.

**Rendier's tour.**

**Borholm.** An island of Denmark, in the Baltic sea, the remotest and most easterly of all the Danish islands, about 18 miles in length, and 10 in breadth. Although it is nearly surrounded by rocks, and the soil is rocky, it is a fertile spot, abounding with excellent pastures; oats, butter, and fish constitute the wealth of the inhabitants. There are some mines of coal and quarries of marble. It was conquered by the Swedes in 1645, and surrendered to them by the treaty of Roldik, in 1658; but the inhabitants revolted in the same year, and restored their island to the Danin dominion, under which it has since continued. Borholm is distant 75 miles from Zeland, and 14 from the coast of Schonen. N. lat. 55° 1' 12'. E. long. 15° 20'.

**Borin.** In Conchology, a species of Tellina, figured by Born. This shell is transversely flinted, bent on one side, and reddish, with red rays. This is three quarters of an inch long, and two inches broad. The native place is not known.

**Borne, in Geography, an extensive kingdom of Africa, lying south-east of Egypt, and bounded on the north by the desert of Bilma, on the west by Kuka, Tagua, and Nubia,
Nabia, on the south by Kanga and Begamme, and on the west by Zegrez, Zanfara, and Kasfina. The name Bornou, which is given to this kingdom by the natives, is distinguished in Arabia by the appellation of Béron, or Berou, signifying the land of Noah; for the Arabs conceive, that, on the first retiring of the deluge, its mountains received the ark. This is a country of great extent, being comprehended between the 10th and about the 22d degrees of N. latitude. The climate is characterized by excessive, but not uniform, heat. Two seasons divide the year; one commencing about the middle of April, and introduced by violent winds from the S.E. and S., intense heat, a deluge of rain, and such tempests of thunder and lightning as destroy many cattle and people; at this time the inhabitants confine themselves to their houses; the rest of the season, though sultry and rainy, does not hinder the labours of the husbandman and shepherd. The other season commences towards the latter end of October, when the heat becomes less intense, the air more soft and mild, and the weather serene. The inhabitants are numerous, and consist of various nations; and it is reported that thirty different languages are spoken in this empire. The language of the common people of Bornou, though different from, strongly resembles that of the neighbouring negroes, and is very unlike the Arabic, in which, however, the nobles and principal families converse. The art of writing is known among them; and they are taught to express the Bornou tongue in the characters of the Arabic. They are entirely black, but not of the negro cast. Their general dress is composed of shirts of blue cotton, manufactured in the country; a red cap, imported from Tripoli; and a white mufflin turban, brought from Cairo by the pilgrims, who return through that city from Mecca. Noe-rings of gold are also worn by the principal people, as a mark of distinction. Wheat and barley are seldom raised in Bornou; but the horse-bean of Europe, and the common kidney-bean are affluently cultivated, as they are useful for food, both by the slaves and by the cattle. They also cultivate a kind of grain peculiar to the country; and the neighbourhood of the city of Bornou is fertile in Indian corn and rice. Gum-trees are thinly scattered; cotton, hemp, and indigo are also to be reckoned among the various productions of its soil. In the culture of the ground, the hoe is the only instrument in use, as the plough is not known; and the women share with the men the labours of their husbandry. The sowing season commences at the end of the periodical rains in April; and such is the rapidity of vegetation, that one flower growth, in August or September. Two species of roots are used as subsistence and wholesome food; one called the "dondoo," whose leaves resemble those of the garden bean, is dried in the sun, and reduced to fine powder, which is mixed with palm oil into the consistency of paste; and the other prepared for use merely by boiling. The fruits of Bornou are grapes, apricots, pomegranates, lemons, limes, and melons. The dates are scarce and indifferent, as are also the apples and plums; but it has a valuable vegetable, called "Kédénah," resembling the olive in form and height, and the lemon in its leaf, which bears a nut, whose kernel is an esteemed fruit, and seed; when bruised, yields an oil that supplants the lamps with a substitute for the oil of olives. To the class of animals we may refer innumerable flocks of sheep, and herds of goats and cows, (for there are no oxen,) together with multitudes of horses, buffaloes, and camels, the flesh of which is in high estimation, which cover the vales or pastures on the mountains of Bornou. The common fowl is reared by the inhabitants; and their hives of bees are so numerous, that the wax is often thrown away as an article of no value in the market. Their game consists of antelopes, partridges, wild ducks, and the gallin, the flesh of which they prize above every other. Their other wild animals are the lion, the leopards, the cheetah, the small wolf, the fox, the wild dog that hunts the antelope, the elephant, of which, however, they make no use, the crocodile, the hippopotamus, and giraffe. Bornou is much infested with different kinds of dangerous and disgusting reptiles, especially snakes and scorpions, centipedes and toads. Its baths of brine are numerous and various; of which we may reckon the camel, the horse, the ass, and the mule. The dog appears to be the only domestic animal. In Bornou the fame plan of constructing their houses universally prevails. Four walls, including a square, are erected; within the walls, and parallel to them, four other walls are also built; the ground between the walls is then divided into different apartments, and covered with a roof. Thus the space within the interior walls determines the size of the court; the space between the walls, limits the width of the apartments; and the height of the walls regulates the height of the rooms. In a large house the rooms are each about twenty feet long, eleven feet high, and as many in width. On the outside of the house, a second square or large yard, surrounded by a wall, is usually provided for the inclosure and protection of the cattle. The walls are generally composed of earth and sand, but others are formed of stones or bricks and clay; and the roofs consist of branches of the palm-tree, intermixed with brushwood, covered with layers of earth; and the whole building is white-washed with a species of chalk. The utensils of a house, among the lower classes, are mats covered with a sheepskin, upon which they sleep; an earthen pot and pan; two or three wooden dishes, a couple of wooden bowls, an old carpet, a lamp for oil, and a copper kettle. Perfumes of a superior rank also pollute leather cushions, stuffed with wool, brads and copper utensils, a handkerchief, a carpet, and a sort of candlestick, which is used for their candles that are made of their bees' wax and the tallow of their fleece. The current species of the empire consists of pieces of metal from an ounce to a pound in weight, formed of copper and brass, melted together and mixed with other materials. The ruling people in Bornou profess the mahometan religion, so that the sultan and his subjects are Mussulmen, and the other classes are pagans. The government is an elective monarchy; and the new sovereign, when chosen from among the sons of his predecessor, is invested with all the laws, and with two-thirds of all the cattle and land, of his father; the remaining third being always detained as a provision for the other children of the deposed monarch. To the four lawful wives of the late sovereign, a separate house with a suitable establishment, is granted by the reigning monarch; and such of his concubines, as were not slaves, are at liberty to return to their friends, with their cloaths and ornaments, and with the permission to marry. The administration of the provinces of Bornou is committed to governors, appointed by the crown; and the expenses of the sovereign are defrayed partly by his hereditary lands, and partly by taxes levied on the people. The sultan Ali, who was the sovereign of Bornou, in 1789, though plain in his dress, maintained a magnificent retinue, accommodating 500 ladies, and was reputed to be the father of 350 children; and the number of horses kept for his own use and that of his servants, amounted to 500. The military force of Bornou consists in a great multitude of horsemen, which renders him a much more powerful monarch than the emperor of Morocco; but his foot-soldiers are few in number, and of little importance. Their weapons of offence are the sabre, the lance, the pike, and the bow; and a shield of hides forms their
their defensive armour. Fire-arms, though not entirely unknown, are neither used nor possessed by the people of Bornou. As to their habits and manners, the people are regularly courteous and humane. On the road they stop to salute every one they meet; their quarrels, when they occur, are mere contes of words; and though their women share with them in the burdens of husbandry, their work, which is dropping the rice in the furrows, and removing the weeds with a hoe, is more an amusement than labour. Their attachment to play is immediate; and on the game of drafts, which is the only game with which the lower classes are acquainted, they stake their gold dust, their brass money, and even their claptas. Persons of a superior rank are equally devoted to chess, in which they are eminently skilful. The articles of export furnished by the empire of Bornou are gold-dust, slaves, produced from Begarmie, horses, ostrich feathers, salt, collected on the shores of the several lakes that produce it, and caviare, obtained from a species of wild cat that is common in the woods of Bornou and Kaffina. As to their manufactures, they make a coarse linen of the hemp of their country. Their cotton is spun to a very fine thread, and then manufactured into calicoes and muslins about nine inches broad, and in length from fifteen to twenty yards. Such of these cotton manufactures as are enriched with the blue dye of the country, which, from the superindority of the indigo, is preferable to that of the East Indies, are valued more highly than silk. They also fabricate a species of carpet, as a covering for their horses; and tents, of wood and the hair of goats and camels, are made for the use of the army. From the iron ore of their country they form, with little skill, such forges tools as their husbandry requires; and the little silver they have is converted by their own artillers into rings. In return for their exports, they receive from Tripoli, by way of Fezzan, copper and brass, which are used as current speces; and also imperial dollars, of which they make rings and bracelets for their women; red woven caps worn under the turban, check linens, light coarse woollen cloths, baize, baracans, small Turkey carpets, and plain Mefurata carpets. Mr. Lucas's Communications in the Proceedings of the African Association.

Bornou, the capital of the country above-described, is situated at the distance of a day's journey from a river which is called "Wed-el-Gazel," from the multitude of antelopes that feed on its banks, and which is lost in the deep and sandy wastes of the very deserts of Djama. It is seated in a flat country, on the banks of a small river. Bornou, though a town of greater extent than Tripoli, consists of a multitude of hovels, so irregularly placed, that the intervals between them cannot be called streets; it is furnished with mosques, which are constructed of brick and earth, and with schools, in which the Koran is taught, as in the principal towns of Barbary. The royal palace, in which the sultan resides in time of peace, is surrounded by high walls, and forming a kind of citadel, is built, perhaps for security, in a corner of the town. Within the city are markets for the sale of provisions; but for other articles a weekly market, as in Barbary, is held without the walls. This city is surrounded by a wall, fourteen feet high, constructed on a foundation from eight to ten feet deep, of considerable strength. It is secured by a ditch which encompasses the whole; and at fun set, the seven gates, which form the communication with the country, are shut. Brown, in his travels, p. 167, says, that the wall has four gates, opening east, west, north, and south. N. lat. 19° 35'. E. long. 22° 40'.

Bornstett, a town and bailiwick of Germany, in the circle of Upper Saxon; 4 miles S. W. of Eillben.

Borny, a town of France, in the department of the Marne, and chief place of a canton, in the district of Metz, 2 miles E. of Metz.

Boroczane, a town of Poland, in the patinate of Red Russia; 38 miles S. W. of Haine.

Borolibicus, the wind which blows in the middle between the north and west points; called also the north-west wind.

Borono, in Geography, a town of Russia, in the government of Archangel; 80 miles S. of Archangel.

Boros-Jeno, a town of Hungary; 28 miles S. of Gros-Warden.

Borough, Burrow, Borow, or Burgh, is frequently used for a corporate town, which is not a city.

Borough, in its original Saxon hores, or borh, is by some supposed to have been primarily meant of a tything or company consisting of ten families, who were bound or combined together as each other's pledge.

Afterwards, as Verilignian informs us, borough came to signify a town that had something of a wall or inclosure about it, so that all places which among our ancestors had the denomination of borough, were one way or other fenced or fortified. But in later times, the same appellation was also bestowed on several of the ville insigne, or country towns of more than ordinary note, though not walled. According to Somner, a borough was a place of safety, protection, and privilege; and in the reign of King Henry II. boroughs were so highly privileged that if a bondman or servant remained in a borough a year and a day, he was by such residence made a free-man. Grindal. These were denominated free-burghs, and the tradesmen who inhabited them free-burghese, because they enjoyed a freedom to buy and sell without molestation, and with exemption from toll, &c., granted by charter.

The ancient Saxons, according to Spelman, gave the name burgh to those called, in other countries, cities. But divers canons were made for removing the episcopal fees from villages and small towns to the chief cities, the name city became attributed to episcopal towns, and that of borough retained to all the rest; though none of them had the appearance of cities, as being governed by their mayors, and having laws of their own making, and sending representatives to parliament, and being fortified with a wall and castle, and the like. See City.

Borough, or burgh, is now particularly appropriated to such towns and villages, as send burgesses or representatives to parliament.

Boroughs are equally such, whether they be incorporate or not; there being great numbers of our English boroughs not incorporated; and, on the contrary, several corporations that are not boroughs; e. g. Kingston, Deal, Kendal, &c.

Boroughs are distinguished into those by charter or statute; and those by prescription or custom.

The number of boroughs in England and Wales, including cities and county ports, which elect members, is 215; some whereof send one, some two representatives.

It has been a subject of controversy among antiquaries, at what time the representatives of boroughs formed a part of the great council of the nation. Some have traced their origin as far back as the Saxon Witenagemot; and have supposed that they were the, fidei-, sapientes, or wise men, two, besides the prelates and elders, are mentioned as a component part of this assembly. Others, however, have maintained, that these wise were the judges, or men learned in the law. Others who exclude the burgesses, or commons, from the Saxon witenagemot,
allege, that the expressions, employed by all ancient historians, in mentioning this national council, seem to contradict the former supposition. The members, it is said, are almost always called the princes, barons, magnates, peers; terms which seem to suppose an aristocracy, and to exclude the commons. The boroughs also, from the low state of commerce, were so small and so poor, and the inhabitants lived in such dependence on the great men, that it does not seem probable they would be admitted as a part of the national councils. It appears from Domesday that the greatest boroughs were, at the time of the conquest, scarcely more than country villages; and that the inhabitants of a station little better than servile. If it be unreasonable to think that the valets of a barony, though their tenure was military, and noble, and honourable, were ever fummoned to give their opinion in national counsels, much less can it be supposed, that the tradesmen or inhabitants of boroughs, whose condition was so much inferior, would be admitted to that privilege. These boroughs were not then so much as incorporated; they formed no community; they were not regarded as a body politic; and being merely formed of a number of low dependent tradesmen, living without any particular civil tie, in neighbourhood together, they were incapable of being represented in the states of the kingdom. The commons are well known to have had no share in the governments established by the Franks, Burgundians, and other northern nations; and as the Saxons remained longer barbarous and uncivilized than these tribes, they could never think of conferring such an honourable privilege on trade and industry. The military profection alone was honourable among all those conquerors; the warriors subsisted by their possessions in land; they became considerate by their influence over their valets, retainers, tenants, and slaves; and it requires strong proof to convince us, that they would admit any of a rank so much inferior as theburghers, to share with them in the legislative authority. The first corporation, even in France, which made more early advances in arts and civilization than England, is sixty years posterior to the conquest under the duke of Normandy; and in Normandy, the constitution of which was most likely to be William's model in raising his new fabric of English government, the states were entirely composed of the clergy and nobility; and the first incorporated boroughs, or communities, of that ducy, were Rotten and False, which enjoyed their privileges by a grant of Philip Augustus, in the year 1207. All the ancient English historians, when they mention the great council of the nation, call it an assembly of the baronage, nobility, or great men; and none of their expressions, says Mr. Hume, (ubi infra) though several hundred passages might be produced, can, without the utmost violence, be tortured to a meaning, which will admit the commons to be constituent members of that body. When historians mention the people, populus, as a part of the parliament, they always mean the laity, in opposition to the clergy; and though the word communis sometimes occurs, Mr. Brady maintains, that it always means communis baronii. If, therefore, in the long period of 200 years, which elapsed between the conquest and the latter end of Henry III., and which abounded in factions, revolutions, and convulsions of all kinds, the house of commons never performed one single legislative act, so considerable as to be once mentioned by any of the numerous historians of that age, they must have been totally insignificant; and in that case, what reason can be assigned for their ever being assembled? can it be supposed, that men of so little weight or importance possessed a negative voice against the king and the barons? Every page of the subsequent histories discovers their existence; though these histories are not written with greater accuracy than the preceding ones, and indeed scarcely equal them in that particular. The magna charta of king John provides, that no licence or aid should be imploed, either on the land or towns, but by consent of the great council; and for more security, it enumerates the persons entitled to a seat in that assembly, the prelates and immediate tenants of the crown, without any mention of the commons: "An authority (says Mr. Hume) so full, certain, and explicit, that nothing but the zeal of party could ever have procured credit to any contrary hypothesis." The same writer adds, that it was probably the example of the French barons, which first emboldened the English to require greater independence from their sovereign; and it is also probable, that the boroughs and corporations of England were established in imitation of those of France.

In ancient times, men were not very solicitous to obtain a place in the legislative assemblies; and rather regarded their attendance as a burden, which was not compensated by any return of profit or honour, proportionate to the trouble and expense. The only reason for instituting these public councils was, on the part of the subject, that they defied some security from the attempts of arbitrary power; and on the part of the sovereign, that he desired of governing men of such independent spirits without their own consent and concurrence. But the commons, or the inhabitants of boroughs, had not yet reached such a degree of consideration as to derive security against their prince; or to imagine, that even if they were assembled in a representative body, they had power or rank sufficient to enforce it. For protection against the violence and injustice of their fellow citizens, in which alone they aspired, they directed their views to the courts of justice, or to some great lord, to whom, either by law or by choice, they were attached. On the other hand, the sovereign was sufficiently averse from obligation in the whole community, if he procured the concurrence of the nobles. The military bar-valets could entertain no idea of opposing both their prince and their superiors; and much less could the burghers and tradesmen aspire to such a thought. Thus, if history were silent on the head, there is reason to conclude, from the known situation of society during those ages, that the commons were never admitted as members of the legislative body.

The first time in which, according to the opinion of those who admit the conclusiveness of the above reasoning, historians speak of any representatives sent to parliament by the boroughs, was the year 1265, during the reign of Henry III.; when the earl of Leicester usurped the royal power, and summoned a new parliament to London, where he knew his power was uncontrollable. Besides the barons of his own party, and several ecclesiastics, who were not immediate tenants of the crown, he ordered returns to be made of two knights from each shire, and also of deputies from the boroughs; an order of men, it is said, which, in former ages, had always been regarded as too mean to enjoy a place in the national councils. Accordingly, this period is commonly esteemed the epoch of the house of commons in England. But though that house derived its existence from so precarious, and even so invidious an origin, as Leicester's usurpation, it soon proved, when summoned by the legal princes, one of the most useful, and, in process of time, one of the most powerful members of the national constitution; and gradually reduced the kingdom from aristocratical as well as from regal tyranny. But Leicester's policy, if we ascribe to him so great a blessing, only forewarded by some years an institution, for which the general state of things had already prepared the nation. It was not, however, till the 23d year
year of the reign of Edward I. (A.D. 1274), that the
deputies of towns and boroughs were by a regal
summons, introduced into parliament. This is therefore regarded as the
governmental and true epoch of the house of commons, and the faint
dawn of popular government in England. Leicesters's usurpation
produced only a temporary effect, and the summons of
representatives from boroughs was discontinued in subsequent
parliaments; but from this period burgesses became a perma-
ment part of the British legislature. The necessities of
Edward, occasioned by his continual wars, and by the dimin-
ution of his revenues, induced him to recur to this measure
for obtaining requisite supplies; and he became sensible, that
instead of imposing taxes by his prerogative, and enforcing
his edicts for this purpose, a more expeditious and effectual
means was to assemble the deputies of all the boroughs, to
lay before them the necessities of the state, to discuss the
matter in their presence, and to require their consent to the
demands of their sovereign. With this view he issued
writs to the sheriffs, enjoining them to send to parliament, along
with two knights of the shire, two deputies from each bor-
ough within their county, and these provided with sufficient
powers from their community, to consent in their name, to
what he and his council should require of them. Accord-
ingly, writs were issued to about 120 cities and boroughs.
As it is a most equitable rule, says he in his preamble
to this writ, "that what concerns all should be approved by
all, and common dangers be repelled by united efforts;" a
noble principle, which may seem to indicate, says Mr. Hume,
a liberal mind in the king, and which laid the foundation of
a free and an equitable government. The writs of the parlia-
ment immediately preceding remain; and the return of
knights is there required, but not a word of the boroughs;
a demonstration, according to Brady (of Boroughs), that this
was the very year in which they commenced.
After the election of these deputies by the aldermen
and common-council, they gave seisin to their attendance be-
fore the king and parliament; their charges were respec-
tively borne by the boroughs which sent them; and they had
to little idea of appearing as legislators,—a character so re-
monstrative from their low rank and condition,—that no intellig-
ence could be more difficult to any borough, than to find that
they must elect, or to any individual, that he was elected to a
trust, from which no profit or honour could possibly be
derived. Properly speaking, they did not compose any essent-
ial part of the parliament; they sat apart both from the barons
and knights, who disdained to mix with such mean person-
ages; and after they had given their consent to the taxes
required of them, their sullenness being then finished, they
separated, even though the parliament still continued to sit
and canvass the national business. As they were all real
burgesses of the places from which they were sent, the sher-
iffs, when he found no person of abilities or wealth sufficient
for the office, often took the liberty of omitting particular
boroughs in his returns; and as he received the thanks of
the people for this indulgence, he gave no;display to the court,
which levied on all the boroughs without distinction the
tax agreed to by the majority of the deputies. It was
not till the reign of Richard II. that the sheriffs were de-
prived of the power of omitting boroughs at pleasure.
5 Ric. II. cap. 4.
The union of the representatives from the boroughs gra-
dually gave more weight to their whole order; and it be-
came cumbrous for them, in return for the supplies which
they granted, to prefer petitions to the crown for the redrefs
of any particular grievance, of which they found reason to
complain. These petitions received the function of royal
authority, and acquired validity, even without the consent
of the nobles. Afterwards, however, the house of peers,
the most powerful order in the state, reasonably ex-
pected, that their assent should be expressly granted to all public
ordinances; and in the reign of Henry V., the commons
required that no laws should be framed merely upon their peti-
tions, unless the statutes were worded by themselves, and
had passed their house in the form of a bill. At this time,
the commons were much below the rank of legislators; and
throughout the reign of Edward I., their assent is not once
expressed in any of the enacting clauses; nor in the reigns
following, till the 4th of Edward III. nor in any of the enact-
ing clauses of 16 Ric. II. Nay even so low as Henry VI.
from the beginning till the 8th of his reign, the assent of the
commons is not once expressed in any enacting clause. Pref.
to Rushhead's edition of the statutes, p. 7. The commons
were so little accustomed to transact public business, that
they had no speaker till after the parliament 6th Edw. 11.;
and in the opinion of most antiquaries, not till the 11th of
Richard II. The house of representatives from the counties
were gradually separated from that of the peers, and formed
a distinct order in the state. Nevertheless the knights of
shires did not form the same house with the burgesses. But
by degrees the growth of commerce augmented the private
wealth and consideration of the burgesses; the frequent
-demands of the crown increseced their public importance; and as
they represented particular bodies of men, resembling in this
respect the knights of shires, they were united together in the
same house. Mr. Carter, after having carefully consulted
the rolls of parliament, affirms (Hist. vol. ii. p. 451.), that they
never appear to have been united till the 10th of Richard
III. But this union does not seem to have been final; for,
in 1378, the burgesses acted by themselves, and voted a tax
after the knights were dismissed; and influences occur at later
periods of their acting separately. The chief baron Gilbert
(Hist. of the Exchequer, p. 37.), is of opinion, that the
reason why taxes always began with the commons, or bur-
geesses, was, that they were limited by the instructions of their
boroughs. In the manner above stated, the third estate, or
that of the commons, reached at last its present form; and
as the country gentlemen made themselves forwards no scruple
of appearing as deputies from the boroughs, the distinction be-
tween the members was entirely lost, and the lower house
thence acquired a great accession of weight and importance
in the kingdom. Still, however, the office of this claret
was very different from that which it has since exercised with
so much advantage to the public. Instead of checking and
controlling the authority of the king, they were naturally
induced to adhere to him, as the great fountain of law
and justice, and to support him against the power of the
aristocracy, which was at once the source of oppression to
themselves, and disturbed them in the execution of the laws.
The king, in his turn, gave countenance to an order of men
so useful, and so little dangerous; the peers were also
obliged to pay them some consideration; and thus the third
estate, formerly so abject in England, as well as in all other
European nations, rose by slow degrees to its present im-
portance; and in its progress, made arts and commerce, the
necessary attendants of liberty and equality, flourished in the
kingdom.
In addition to what has been already advanced, Mr.
Hume alleges a further evidence, that the commencement of
the house of burgesses, who are the true commons, was not
an affair of chance, but arose from the necessities of the pre-
sent situation; viz. that Edward, at the very same time,
summoned deputies from the inferior clergy, the first that
ever met in England, and required them to impose taxes on
their constituents for the public service.

6
On the other hand, it has been argued by the advocates of the higher antiquity of the commons, that if we look to the best accounts of the original customs of the ancient German nations, we shall find, that, in their communities, all the freemen enjoyed an equal right with the nobles to sit in deliberations on affairs of great moment. See Tacitus de Moribus German. c. 25. Upon their first settlement in any foreign country, and while their number was small, this right might be exercised, without much inconvenience, by the whole body of the freemen assembl'd together on open plains. To this purpose, Matthew of Westminster (Sub. Ann. 1213. Johan. 15.) intimates, that the Angle-Saxons, after they came into Britain, exercised their right in this manner; for he says, that the meadow near Stainton, in which King John granted the great charter, was called "Rumewed," denoting in the Saxon language the "meadow of counsel," because from ancient times it had been usual to consult there upon business which concerned the peace of the kingdom. But this custom had been diffused under, and even before, the government of the Normans; perhaps from the time in which the Saxen heptarchy was united into one kingdom. The only instance that occurs of its having been revived is the meeting in the reign of King John; all the parliaments, or great councils, of which we have any account before, were held in churches, abbeys, or royal castles; and therefore, if the right of the freemen continued, the greater part of them must have exercised it, not personally, as in ancient times, but by their representatives. By a record cited by Dr. Brady, so late as the fifteenth year of King John, it appears that not only the greater barons, but all the inferior tenants in chief of the crown, had a right to be summoned to parliament by particular writs; and therefore we may conclude, that till that time, no representatives had been sent by any of these to serve for them in parliament; but they attended the great councils of the nation in their own persons; and their number was not so considerable, as not to allow of their being accommodated in the body of a church, or the great hall of an abbey or castle. But there were far from being all the freemen of the kingdom, for this description comprehend all who held of the barons, either by knight-service, or free fagation, and all the possessors of alodial estates, with all the freemen of cities and boroughs not holding of the crown. The number of all these was too great to be contained in any building however spacious. But were these men either wholly excluded from parliament, or were they present there by any kind of representation? Some learned writers have supposed, that every superior lord, who held of the king immediately and in chief, gave an opinion on matters of government, which bound all his vassals. But if this were the case, the possessors of alodial estates, to which classes we may refer all the parochial clergy, having no superior lord to act for them in parliament, could not be thus represented or virtually bound by the act of the king's barons, to which they were not attached by any feudal connection, and of whom they held nothing. Besides, the knights, citizens, and burgesses, who are now representatives of the commons of England, are elected by those for whom they hold land, and on occasion of every new parliament, the electors are at liberty to make a new choice: whereas, the representatives, in the above hypothesis of Sir H. Spelman, were neither elected nor liable to be changed at any peril of time, by those whom they represented; their right to sit in parliament not arising from any truce conferment to the people, but wholly from their tenures. It is also certain, that the feudal superiority was the same under the government of Henry III. as of William I., and continued so for some ages. If therefore the barons, and superior lords of great fiefs, holden immediately of the crown, had, by virtue of the institutions of William I., been supposed to represent their vassals in parliament, and the notion then was, that every feudatory, holding by a meane tenure, was bound by the parliamentary acts of his lord, how came that notion to be discarded in the 49th year of Henry III. or under the reign of his son, or at any time afterwards? A baron, who held of the crown, was to all intents and purposes the head of his vassals, in the reigns of Edward I. and Edward III., as much as in any of the preceding reigns. How happened it then, that the concept of these vassals to the making of laws, or any other act of moment to the public, was not still included in the vote of their lord? Why was it given, against the course of former proceedings, not by them, as their representative, but by knights of the shire, or by citizens, or by burgesses, chosen by the vassals? Some have referred this change, as we have above stated, to the earl of Leicester, in the 49th year of Henry III. But an existing record, it is said, demonstrates this date to be false. A writ of summons, directed to the sheriffs of Bedfordshire and Buckinghamshire, and requiring two knights to be sent for each of these counties, is extant in the chace roll of the 30th year of Henry III. And there is also a clause in the great charter, of the 9th of the same king (see Dr. Blackstone's edition of the charter), whereby it is declared, that, together with the episcopal and temporal lords, other inferior freeholders, comites de regno, by which words lord Lyttleton understands "the whole commonality of the realm," granted to the king the fifteenth part of all their moveable goods, in return for the liberties accorded to them in that charter." "Nor," says his lordship ("ubi infimus, "can I discover in the history of those times any reason sufficient to render it probable, that so great an alteration should then have been made in the constitution of England." Such an alteration must have produced disputes, which would have been noticed by some of the numerous historians of that age. But the English history is altogether silent as to any disputes between the nobility and the people, on this account, from the earliest times of the Saxon government down to the reign of Charles I. Hence it may be reasonably presumed, that the rights of the commons must have been incompletely established by custom, and interwoven into the original frame of our government. It is hardly conceivable, that the admission of all the lower orders of freemen, or indeed of any large number, to the great council of the kingdom, and to a participation of the legislative power, to which they had no right before, should have been brought about, and yet pass unobserved by any writer who lived in that age. If we suppose, as some have done, that the sitting in parliament was at this time regarded only as a trouble and burden, the imposition of such a burden on orders of men, who had been before exempt from it, must have been felt by their part resisting and opposed. But from the act of the 4th of Edward III., which is thus worded, "It is assented, that a parliament shall be holden every year once, and more often, if need be," we may infer, that it was generally regarded in a very different light, rather as a privilege, of which they earnestly desired the frequent enjoyment, than as a burden, from which they wished to be exempt. It is true, some boroughs, which, on account of their poverty, were unable to bear the expense of sending members to parliament, declined the exercise of that privilege; but it would be unfair to allege this circumstance, which occurred in particular instances, as an argument in favour of the general enfranchisement of counties, cities, or other more wealthy boroughs. Besides, there are some instances of boroughs that petitioned to be restored to the use of the privilege of sending members to parliament, after a very long interruption.
interruption. Moreover, it seems incredible, that if the
whole legislative power had, before the reign of Henry III.,
been always placed in the nobility and the king, they should
not have opposed the extension of it to so many persons
of lower rank in the state : more especially as the power of the
nobility was never higher than it was in this reign. With
regard to the earl of Leicester, it was not his interest, while
he was acting at the head of the nobles and people, to take
a very dangerous course against the crown, to make any
innovations edictive or distributive to either of those bodies; nor is it
probable, that any new institution begun by that earl, should
have been confirmed and perpetuated by Edward I. Among
the chief acts of the 24th of this king, there is a writ of
summons to parliament, already cited, in which it is asserted,
not as an innovation introduced by the earl of Leicester, but
"a maxim grounded on a most equitable law, established
by the foresight and wisdom of dear princes, that what con-
cerns all, should be done with the approbation of all; and
that dangers to the whole community, should be obviated by
remedies provided by the whole community." If the earl
of Leicester, or even if Edward I., or his father, had intro-
duced the practice of summoning the commons to parliament,
Edward could not with propriety have used this language.
It is further alleged, that there is not in any of the oldest
writs for sending up representatives from cities or boroughs
the least intimation, that such elections were a novelty then
introduced. Some writs are taken notice of by Mr. Tyrell,
"an industrious searcher of records on this subject," which set
forth a claim of certain tenants in ancient demesne, before
the 15th year of Edward II., that they ought not to be
charged with wages to knights of the shire: "forasmuch as
they and their ancestors, tenants of the same manor, had,
from time beyond memory, been always exempted, by
custom, from the expences of knights, sent by the community
of their county to the parliaments of the king, and of
his royal progenitors." A time beyond memory is defined
by our law-books to be a time antecedent to the beginning
of the reign of Richard I.; and if no wages had been ever
paid to knights of the shire till the reign of Henry III.,
it would have been preposterous for these persons to tell the
grandson of that king, that they had enjoyed a customary
privilege of not paying wages from time beyond memory,
which must be supposed, when this exemption was claimed,
to go much further back than the reign of Richard I.
With regard to cities and boroughs, there are likewise
extant two claims, made in the reigns of Edward II. and
Edward III., which seem to decide the feme of that age con-
cerning the antiquity of the custom of citizens and burgesses
coming to parliament; and from towns that were held under
subjects, not immediately of the crown. These are the
claims of the towns of St. Albans and Barnstable. In the
petition of the borough of St. Albans, first taken notice of
by Selden, and then by Petty, Brady, Tyrell, and others,
and presented to parliament in the reign of Edward II.
the petitioners assert, that though they held in capite
of the crown, and owed only for all other service their attendance
in parliament, yet the sheriff had omitted them in his writs;
whereas, both in the reign of the king's father, and all his
predecessors, they had always fent members. This expres-
sion, it is alleged, could not have been used, if the com-
 mencement of the house of commons were in the reign of
Henry III. However, Madox, in his "History of the
Exchequer," p. 522, &c., has endeavoured to destroy the
authority of this petition for the purpose to which it is ad-
duced. He asserts, first, that there was no such tenure in
England, as that of holding by attendance in parliament,
instead of all other service; and secondly, that the borough
of St. Albans never held of the crown at all, but was always
done as land of the abbot. It is no wonder, therefore,
says Mr. Hume, that a petition, which advances two false-
hoods, should contain one historical mistake, which indeed
amounts only to an inaccurate and exaggerated expression;
no charge matter in ignorant burgesses of that age, who
wished to shake off the authority of their abbot, and to hold
of the king, without rendering any services even to the
crown. See the discussion of this subject, and an examina-
tion of the reasoning of Madox and Dr. Brady, in Lyttel-
ton's "Hist. of Eng." vol. iii. p. 495, &c. The advocates for
the antiquity of borough representatives further refer to a
flattery of the 5th year of Richard II. (cont. 2. which enacta,
that all and singular persons and commonalities, which from
henceforth shall have the summons of the parliament, shall
come from henceforth to the parliaments in the manner as
they are bound to do, and have been accustomed within the
reign of England, of old times. And if any person of the same
realm, which from henceforth shall have the said summons
(be he archbishop, bishop, abbot, prior, duke, earl, baron,
banister, knight of the shire, citizen of city, burgess of
borough, or other singular person or commonality), do absent himself,
&c., he shall be amerced, and otherwise punished, according
as of old times hath been used to be done within the said realm
in the said cafe." Upon this statute it is argued, that it makes
no distinction between the antiquity of summons to parlia-
mant sent to the greater nobility, and those to citizens, burg-
geffes, and knights of the shire. Besides this remarkable
testimony of the whole legislature in the reign of Richard II.
to the antiquity of the custom of the commons coming to
the parliament, we have a petition of the commons in the second
parliament of the reign of Henry V., which sets forth to
that prince, "that as it hath ever been their libertie and fre-
dom, that there should no statute nor law be made, unless
they pait thereto their assent, considering that the commune
of your land, the which is and ever hath been a member of
your parliament, be as well affenter as petitioners, &c." This
claim was not disallowed either by the lords or the
king. Besides these authorities drawn from statutes and re-
cords, it is said, that very evident indications of the preference
of the people in the national councils, and of their being
conscientious parts thereof, and in a disorderly manner, are to
be found in some ancient histories, and contemporary ac-
counts of transactions in parliament, from the death of Ed-
ward the Confessor to that of Henry II. Several instances
to this purpose, occurring in the reigns of William the Con-
queror, William Rufus, Henry I., Stephen, Henry II.,
&c. are produced by lord Lyttelton, in the Notes to his
"Hist. of Eng." vol. iii. p. 421, &c. We may further add, that
the preference of the people in the Saxon councils, and their
having had a share in the highest acts of legislature and go-
vernment, even till the entrance of the Normans, seems to be
proved very strongly from the preamble of laws and other
proceedings of those councils, and from the words of the best
historians who lived near to those times. On this long usage,
says lord Lyttelton, their right was established; and it ap-
pears to have been continued under William the Conqueror,
with other customs and rights confirmed by him to the na-
tion, and under his successors, by like sanctions of ancient
liberties granted in repeated royal charters. In ancient
times, however, the property of the commons was so une-
equal to that of the nobles, and the feudal obligations of the
inferior landholders to the lords under whom they held,
created such a dependence of the former on the latter, that
although, in the idea and scheme of the government, a pop-
ular power was mixed with the regal and aristocratical, yet,
in reality, the scale of the people was not weighty enough
to make a proper counterpoise to either of the others. The
commons usually declined to give their opinion or advice to the
crown, in certain matters of state, and submitted their
judgment respecting them to the king and his council, or to
them and the lords. While the representatives of cities, towns,
and boroughs, were chosen only out of persons resident in them,
they were generally people of low degree and condition, whose
education and way of life rendered them very unfit to judge of
arduous questions concerning foreign affairs, and treaties
with foreign states. Nevertheless, even in the earliest times,
so far back as we have any rolls of the parliament, all the
commons appear to have given their advice with great free-
dom in matters concerning the internal government and order
of the kingdom. What they declined to advise is, upon
some occasions, were questions that related to the making of
peace or war. Mr. Hume, indeed, affects, on the authority of
a citation from Sir Robert Cotton's abridgment of the
records in the Tower, that the commons in these times were
much below the rank of legislators, and that they were
considered by the king merely as petitioners, or deputie of any
proper legislative authority. But the whole passage, cited
by Lord Lyttelton, seems to confirm, instead of denying
their legislative authority. In the king's answer to their
application, they are truly told, that the power of judica-
ture does not pertain to them, but to the king and the
lords; and this was the question to which their prayer re-
lated; but in statutes they were to judge, as well as in
grants, subsidies, &c. Their being petitioners was cer-
tainly no argument against their being legislators; since
the course of proceedings then was, that their petitions, if
affixed to by the lords and the king, should be turned into
statutes, as all the old records of parliament unquestionably shew.

Burgesses were first admitted into the Scottish parliaments
by Robert Bruce, A.D. 1326; and in the preamble to the
laws of Robert III. they are ranked among the constituent
members of that assembly. Brady of Boroughs. Petyt's
Right of the Commons. Brady's Answer to Petyt. Tyr-
of England, vol. i. and ii. Appendix i. and ii. Lyttelton's
History of Henry II. vol. ii. Robertson's Hist. of Scot-
land, vol. i. p. 79. See WITTENAGENOTE, and Par-
liament.

Borough, in Scots Law, is a body corporate, consisting
of the inhabitants of a certain tract of ground, erected by
the sovereign, with jurisdiction annexed to it. Boroughs
are erected either to be held of the sovereign himself,
which is the general case of royal boroughs, or of the supe-
rior of the lands so erected, as boroughs of regality and ba-
rony. The former are empowered, by their charters, to
chose annually certain office-bearers, or magistrates; but
in the latter, the nomination of magistrates is, by their
charters, lodged sometimes in the inhabitants, sometimes in
the superior. Bailies of boroughs have jurisdiction in mat-
ters of debt, servit, and questions of possession between the
inhabitants. Their criminal jurisdiction comprehends petty
riots, and reckless fire-raising. The dean of gleng is that
magistrate of a royal borough, who is head of the merchant-
company; to him belong the cognizance of mercantile
causes within the borough, and the inspection of buildings,
that they may stand, either on private property, nor on the
public streets; and he may direct incompetent houses to be
pulled down. His jurisdiction has no dependence on the
court of the borough, or bailie-court.

Boroughs, Royal, in Scotland, are corporations made
for the advantage of trade, by charters granted by several
of their kings, having the privilege of selecting commissioners
to represent them, besides other peculiar privileges.

These form a body of themselves, and send commissioners,
each to an annual convention at Edinburgh, to consult
the benefit of trade, and the general interests of the boroughs.
According to Chamberlaine, they have the sole power of
trade and merchandise, exclusive of all others, a power of
holding courts, exercising the jurisdiction of sheriffs, making
by-laws, &c.

The company of merchants in a royal borough make
what is called a gild; the chief of which is a dean of gild,
who is next magistrate to the bailiff. See Gill.

The royal boroughs are not only so many distinct corpo-
lations, but do also constitute one entire body, governed by
and accountable to one general court, ancienly called the
"court of four boroughs," held yearly to treat and deter-
mine concerning matters relating to the common advantage
of all boroughs. The four boroughs which composed this
court were Edinburgh, Stirling, Roxburgh, and Berwick;
which two last falling into the hands of the English, Lit-
lithgow and Lanark were put in their places; with a faving
to the former, whenever they should return to their alleg-
iance. But this court not being sufficient to answer the
necessities of the royal boroughs, they were all empowered,
under James III. in 1487, to send commissioners to a yearly
convention of their own, which was then appointed to be
held at Inverkeithing, and is now held at Edinburgh, under
the denomination of the convention of boroughs, vested with
great power.

Borough-Courts, in Law, are certain courts held in bo-
roughs, by precept, charter, or act of parliament: such
are the sheriff's court, and court of holdings in London.
See Court.

Borough-English, so named in contradistinction, as it
were, to the Norman customs, and noticed by Glanvil (l. 7,
c. 3.), and by Lisletton (f. 165); denotes a customary de-
cent of lands or tenements in some ancient boroughs and
copyhold manors, whereby they come to the youngest, in-
stead of the eldest son; or if the owner hath no issue to the
youngest, instead of the eldest brother; because, according
to Lisletton, the youngest is supposed, in law, the least able
to shift for himself. 1 Inst. 110 b. And in support of this
reason, other usages in favour of the youngest are alleged,
as that in Kent, where the lands being equally divided amon-
g all the sons, the youngest is to have the privilege of all or
barrat in the manor-house, in his share, as being supposed
the tenderest, and more in need of warming. Others, not
withstanding, suspect a different reason for the rise of bo-
rough-English, viz. that the places, where this custom now
 obtains, were anciently liable to that custom granted to the
lords of manors in Scotland by King Edgar, who had the
privilege of enjoying the hill night of their tenants' brid-
es; so that the eldest son being preferred to be the lord's,
they usually settled their lands on the youngest son, whom
they thought their own; which being practiced a long time
went at length into a custom. The custom, however, never
obtained in England, though it did in Scotland, under the
name of "mercetas," or "mercetes," till it was abolished
by Malcolm III. Perhaps, says Judge Blackstone, in the
origin of this practice may be illustrated by that of the Tar-
tars, mentioned by D'Heude, among whom the same cus-
tom of descent to the youngest son prevails. As the na-
tion is composed of shepherds and herdsmen, the eldest
sons migrate from their father with an allotment of cattle, to
seek a new habitation. The youngest son, continuing alone
with his father, is naturally the heir of his house: the rest
being already provided for. This custom of migrating obtained
in many other eastern nations; and borough-English may
be a remnant of that pastoral state of our North and Ger-
man.
man's ancestors, which Caesar and Tacitus describe. Black- f
te's Comm. vol. ii. p. 38. A. This custom goes with the land, and directs the de- 
to the young son, although there be a devise to the contrary. 2 Lev. 12. 8. If a cophaholol to a borough-English be fore- 
cared to the use of a person and his heirs, the right will de- 
ferred to the youngest son, according to the custom. 1 Mod. 
302. And a youngest son shall inherit an estate in tail, in 
borough-English. Nov. t. b. But an heir at common law 
shall take advantage of a custom annexed to a borough-English 
land; though the youngest son shall be entitled to all actions 
in right of the land. 1 N. Abr. 376. And the elder son 
shall have tythes arising from borough-English land; for 
tythes of neglected right are not inheritable descendable to 
an heir, but come in succession from one clergyman to an- 
other. Ibid. 147. Borough-English land being descend- 
able to the youngest son, if a sonnder son dies without issue 
male, leaving a daughter, such daughter shall inherit "jure 
representationis." i Salk. 243. By this custom the landlord 
shall have the whole of the husband's lands in dower, called 
her "free-bench," and it is given to her to enable her the 
better to provide for the younger children entrustled to her 
care. Co. Litt. 3. 111. F. N. B. 1, 2. Mo. Pl. 566. As 
borough-English is particularly noticed by the law, it is un- 
necessary to prove that such custom actually existed, but only 
that the lands in question are subject to it. i Comm. 76. 
But the extension of the custom to the collateral line must 
be specially pleaded. Robin. on Gavelkind, 38. 43. 93.

Borough-Head, or Borough, was one of the lowest 
magistrates among the Anglo-Saxons, and the chief man of 
the decennary, tithing, or free-bench, confiding of ten 
haless, chosen by the reyl to speak and act in their behalf. He 
is also called the tithing-man, and, in some counties, the 
borough-holder, bors-holder, or borough's elder, being 
supposed the different man in the borough, town, or 
tithing.

According to the institution of Alfred, every householder 
was answerable for the behaviour of his family and slaves, 
and even of his guests, if they lived above three days in his house; 
and ten neighbouring householders formed themselves into a 
corporation, under the name of a decennary, or tithing, of 
which the heald-borough, or bors-holder (derived from the 
Saxon word bors, a servi, and older, a held or chief), was 
the president, and they were answerable for the conduct of 
each other. Every man was punished as an outlaw, who did 
not regard himself in some tithing; nor could any one 
change his habitation, without a warrant or certificate from 
the bors-holder of the tithing to which he formerly belonged. 
When any person in any tithing was guilty of a crime, the 
bors-holder was summoned to answer for him; and if he were 
not willing to be surety for his appearance and his clearing 
himself, the criminal was committed to prison, and there de- 
tained till his trial. If he fled, either before or after finding 
sureties, the bors-holder and decennary became liable to in- 
quiry, and were exposed to the penalties of the law. Thirty- 
one days were allowed them for producing the criminal; and 
if they did not find him within that time, the bors-holder, 
with two other members of the decennary, was obliged to 
appear, and, together with three chief members of the three 
neighbouring decennaries (making twelve in all), to swear 
that his decennary was free from all privy both of the crime 
committed, and of the escape of the criminal. If the bors-
holder could not find such a number to answer for their inno- 
cence, the decennary was compelled by law to make satisfac- 
tion to the king, according to the degree of the offence. 
The severity of this regulation was afterwards a little mi- 
gated, and the oaths of all the members of the tithing to

which the criminal belonged, to the above effect, were ad- 
mitted as a sufficient exculpation, provided that, at the same 
time, they promiss, upon oath, to present him to justice, as 
soon as they could apprehend him. By this institution, every 
man was obliged, from his own interest, to keep a watchful 
eye over the conduct of his neighbours; and was in a man- 
ner surety for the behaviour of those who were placed under 
the division to which he belonged; and hence these decennaries 
received the name of frank-pledges. See Tithing.

In many parishes, head-borough also signifies a kind of 
head constable, where there are several chosen as his affilia-
tes, to serve warrants, &c. See Constabull.

Borough, or Borg, denotes a pledge or security for an-
other's keeping the peace, and conforming to the laws. The 
word is Saxon, and is sometimes also written borough; in 
Latin writers, borgia and borgia.

Borough-breach, Borgi fractura, in Ancient Law Writers, 
denotes a breaking of the pledge or security given by the 
members of tithings for the behaviour of each other.

This is the name with what is otherwise called borg-benge, 
borg-berge, borg-brecly, and borgi fractura.

Boroughs, Borough, or Boroughs, in the law of Scotland, 
the same with what in England is called binding to the peace. 
In case of a contravention of law-boroughs, the surety or 
cauterizer is equally liable with the principal for the penalty 
specifiee therein, the one half to the king, and the other to 
the complainant.

Borough-Bridge, in Geography, an ancient bo-
rough town of Yorkshire, in England, derives the latter part 
of its name from a handstone stone bridge over the river Ure. 
This place was formerly called Newborough, in contra-

distinction from Alfborough or Old-borough, a village about 
one mile distant. Each of these places has the privilege of 
feeding two members to parliament; and as both are included 
in one parish, that parish has the singular power of returning 
four members. Alfborough first made a return in 1558, 
and New-borough in 1553: The former place is attributed, 
by many respectable writers, to Roman origin, and is said to 
be the Ituration, which was placed on the Watling-

 direct, 17 miles from Eboracum, or York. The ancient 

walls of this town (Iturium), observs Mr Gough, though 
level with the ground, may easily be traced in a circumference 
of more than a mile and a half. They include an area of an 
oblong square, containing about 60 acres, which lies to the 
river Ure. The walls, near four yards thick, were founded on 
large pebbles, which were laid in a bed of blue clay. Near 
the centre of the Ituration was a hillek, called Borough-hill, 
which seems to have been the citadel, where foundations of 
buidlings, Mosaic pavements, &c. have been discovered. 
A fidatory, with sculptured altars, numerous coins, urns, and 
other relics of the Romans have been found at this site, 
which was evidently of much consequence in Roman Britain, 
although probably subordinate to the great one at 
Eboracum. It is generally written Iturium Brigantium, 
whence Hostyler infers that it was the capital of the Brigantes. 
A particular account of the antiquities found here, with en-
gravings, may be seen in Gough's edition of Camden vol. iii.

p. 59, &c. and a very judicious account in Hargrove's 
History of Knareborough, fifth edition, 15mo. 1798.

Borough-Bridge is only a small town, with 114 houses 
and 686 inhabitants. It belongs to the parish of Alfb-
borough, and has a chapel of ease to the mother church. 
In the centre of the town is a church, or obelisk, about twelve 
feet high, of the same species of stone as the Devil's Arrows, 
which are at a short distance west of the town. These sin-
gular stones have excited much curiosity among antiquaries, 
and furnished a theme for various conjectural dilussions.
There were formerly four stones, raised upright in the ground, but one of them was demolished in the last century. The remaining three stand about two hundred feet from each other, are of an oblong shape, and of a transparent base. The tops seem as if split, and the sides are indented, or furred, for a certain space downwards. This appearance induced false writers to assert that they were fluted by art; but it is more probable that the weather effected this operation. The height of the tallest stone is twenty-two feet and a half from the ground, and its greatest circumference fifteen feet in girth. Its depth in the ground is four feet and a half. Another stone measures twenty-one feet high by seventeen feet in girth; and the third stone is seventeen feet high, by twenty-two feet in circumference. Mr. Drake (in his history of York) supposes that they were trophies raised by the Romans; Leland is of the same opinion: but Dr. Gale conjectures, that they were Hibernian, and from their particular position pointed to four different Roman roads that met at this place. Doctors Plot and Stukeley attribute them to the Britons, and this seems the more probable, as we are well assured that the primitive inhabitants of Britain raised various single upright stones, and different circles of stones of varied diameters and magnitude. This, says Mr. Pennant, were either monumental memorials of departed heroes, on rude objects of worship, such as the Iracrites bowed to, when they departed from the purity of adoration. Such objects are fabled in Wales Mcini-biron, or the long stones, and Mcini-grays, or the ambofal stones, as described by Bryant and others.

The river Ure is not navigable higher than Boroughbridge, near which the canal from Ripon communicates with it by means of a lock. About two miles and a half below the town, the river Swale joins the Ure. Boroughbridge, Altrborough, and the manor, honour, and castle of Knarborough, were, in the 13th of Henry III., granted to the famous Hubert de Burgh, upon his paying a tax a year into the exchequer, but were forfeited by his son in the same reign for joining Simon de Montfort at the battle of Evesham. Boroughbridge remained in the crown till the reign of Edward I., when it belonged to his insolent favourite Peter Cauoll. It now belongs with the barony of the two baronies, to the duke of Newcastle. Near this place, in 1322, a battle was fought between the soldiers of Edward II. and prince Thomas, earl of Lancaster, when the latter was taken prisoner, and, after suffering various indignities, was beheaded. Most of his partizans were taken, and Icon was slain; among whom was John de Bohun, earl of Hereford, who, in passing over the wooden bridge of this place, was killed by a lance from a soldier lurking beneath the bridge.

This town was a weekly market on Saturdays, and twice fairs annually; the principal of which, in June, continues for a week, and is much frequented by the manufacturers from Sheffield, Birmingham, Wolverhampton, &c. Harrogate's History of Knarborough. Gough's edition of Camden's Britannia. Pennant's Tour from Alton Moor to Harrogate, p. 108.

BOROVITCHI, a town and district of Russia, in the government of Novgorod, situated on the river Ilza; 88 miles E.S.E. of Novgorod, and 168 S.E. of Petersburg.

BOROWA, a town of Bohemia, in the circle of Czaltat, 8 miles N.E. of Tetzch Bred.

BOROWICA, a town of Poland, in the palatinate of Volhynia; 20 miles N. of Lucko.

BOROWICK, a town of Poland, in the palatinate of Kiot, 52 miles S.E. of Czarki.

BOROWNIZA, a town of Bohemia, in the circle of Koniggratz, 18 miles S.E. of Koniggratz.

BOROWSKO, a town of Bohemia, in the circle of Czaltat; 7 miles W. of Ledetchte.

BOROZAIH, in Hungary, a village which resembles the yaws, frequent among the Africans inhabiting the banks of the river Benegil. See Yaws.

BOROZDINKA, in Zerow, a fortress of Kuffen Tartary, in the government of Caucasus, on the Ural; 32 miles N. of Cmiel.

BORRAK, in Boethia. See Borago.

BORRELISUS, in Historical History, a left or fort of Ambabists in Holland, who allow of no use of sacraments, public prayers, or other external worship, nor of any human gloss, or explication of scripture: but protest to adhere to the faith and manners of the New Testament times in all their simplicity.

They took their denomination from their founder, Burrel, a person of great learning in the Hebrew, Greek, and Latin tongues, and brother of M. Borel, ambassador of the States to the French king.

BORRI, Joseph Francis, in Latin Burford, in Biography, an impeller and empiric of the 17th century, was born at Milan, about the year 1625, and educated in the Jesuits' seminary at Rome. In early life he was notorious for his licentious conduct; but afterwards assuming the character of a religious devotee, he declaimed against the corruption of the age, and pretended to supernatural visions and revelations. Preaching the powers of the inquisition at Rome, he removed to Milan, where he established a new sect, confining its operations to those whom he attached to himself and his cause by vows of secrecy, and whom he deprived of their property by enforcing the obligation of voluntary poverty. With the affluence of his deluded followers, and by means of a sword which he pretended to have received from heaven, he proposed to compel all mankind to unite in one (speech-fold, of which he was to be the shepherd and superintendant.

Among his other fancies and chimeras, one of his most distinguishing devises was that of the dedication of the virgin Mary, whom he conceived to be the only daughter of God, and the Holy Ghost incarnate. Arrogating to himself a divine mission, he assumed the privilege of conveying illumination to his followers by the imposition of hands; and after gaining a sufficient number of adherents, it was his intention to open his seminary at the great affairs of Milan, and there to inveigh against the civil and ecclesiastical abuses of government, to maintain the people to recover their liberty, and to seize the city and its territories, with a view to more extensive conquests and dominions. As soon as some of his disciples were arrested and imprisoned, he made his escape, and the inquisition proceedings against him, declared him contraceptors, condemned him as a heretic, and caused his effigies to be publicly burnt at Rome. At this time, viz. in 1660, he fought an asylum at Amsterdor, and there he found a convenient theatre for the further exercise of his impostures. Having assumed the characters of a chemist and physician, he pretended to extraordinary skill in the cure of all kinds of distempers, set up a splendid equipage, and assumed the title of excellence. But when his credit sunk, and his resources derived from the art of swindling failed, he fled from Amsterdam in the night, taking with him all the money and jewels he could collect, and removed to Hamburg, where he imposed upon queen Christina, by pretending to be the secret of the philosopher's stone; but when her means of encouraging this debauch failed, he removed to Denmark, and obtained from the king profuse supplies. Upon the death of the king, he thought it most prudent to make his escape, and in his flight towards Turkey, he was apprehended on the German frontier by bailme, as a political criminal.
name being accidentally mentioned to the emperor in the presence of the pope's nuncio, he was demanded as an heretical offender, and delivered up by the emperor on condition that his life should be preferred. Upon his arrival at Rome, he was sentenced to abjure his errors, to do public penance, and to be imprisoned for life. In prison he was visited by several persons of rank, who referred to him in consequence of the fame of his adventures; and having performed a cure on the duke d'Ette, the French minister, who had been given over by several physicians, he obtained some degree of liberty, and at length a removal to the castle of St. Angelo, where he was allowed to prosecute his chemical experiments, and where he died in 1645. Some writings were attributed to him, and printed at Geneva in 1681; one, entitled "La Chaise del Cababito," i.e. the key of the cabinet, being a series of letters relative to alchemy and the Rosicrucian philosophy; and the other, "Irruzioni Politiche," or a set of political aphorisms, with a commentary addressed to the king of Denmark. The Bibliotheca Medicae contains also two of his letters, printed at Copenhagen in 1669, and written to Bartholin: one, "De ortu cerebrui et unico medico," the other, "De articfio oculorum humorum remittendi." König attributes to him another piece, entitled "Noticia gentis Burnhorum."

Borri combined a considerable portion of cunning and artifice with his enthusiasm, and thus became capable of practising more successfully on the credulity of mankind. His fancies with regard to the new celestial kingdom, which he pretended a mission to establish, and the downfall of the Roman pontiff, which he threatened to accomplish, are so extravagant, childish, and absurd, that they can be viewed by sober persons in no other light than as the crude reveries of a disordered brain. In his conduct he manifested, on various occasions, the greatest vanity and levity, accompanying that spirit of importunity which is universally displayed by quacks and mountebanks; and, indeed, says Moheim, "in the whole of his behaviour, he seemed delirious of sense, integrity, and prudence." Gen. Dict. Moheim's Eccl. Hist. vol. v. p. 240.

BORRIANO, in Geography, a town of Spain, at the mouth of the river Millas, in the gulf of Valencia; 7 leagues N. of Valencia.

BORRICHUS, Olaus, in Biography, the son of a Lutheran minister at Ripen in Jutland, was born April 6th 1626. At the age of 18 he was sent to Copenhagen, where he applied with so much avidity to his studies, as to gain him the friendship of the superiors of the college, by the recommendation of whom he obtained the canonry of Lundeen. By continuing this course of life, his reputation for learning and diligence was so establisht, that in 1654, when he was only 25 years of age, he was invited to accept the regency of the academy at Herlow. But as he had determined to dedicate his time to the acquirement of the knowledge of medicine, he refused this offer, purposing to spend a few years in visiting foreign academies, and hearing the most celebrated professors in the different branches of that art. The execution of this project was, however, postponed; at the instigation of M. Gedlorff, the prime minister of Denmark, who entertained him at his house as preceptor to his sons. Here he continued five years, at the end of which time, as a proof of the satisfaction he had given, and of the opinion the minister had conceived of his various endowments, he was at once created professor in philosophy, poetry, chemistry, and botany, in all of which he eminently excelled. Before he entered on the duties of his offices, he was permitted, agreeably to his original intention, to visit the different schools of Holland, England, France, Germany, and Italy, accompanied by the two sons of the minister, his pupils. Having spent six years in this tour, and stored his mind with the knowledge of all that was curious or useful, in the countries he passed through, and taken his degree of doctor in medicine at Angers, he returned in October 1666 to Copenhagen. He now undertook the duty of lecturer in chemistry and in botany; and by the excellence of his discourse on these subjects, confirmed his countrymen in the high opinion they had entertained of his talents. Though the time necessarily spent in this employment, and in preparing his numerous publications, left him, one would have thought, but little leisure for the practice of physic, yet from the great number of valuable observations furnished by him to the Acta Hassiennia, he must have had no inconsiderable share of business in that way. In 1686, he was made counsellor in the superior court of justice; and, in 1639, counsellor in the royal chancery. He died the 3d of October, in the following year, three weeks after having undergone the operation for the stone in the bladder. As Borrichius had never been married, he left a considerable part of the large possessions he had acquired by his practice, for erecting and endowing a college for poor students in medicine. His principal medical productions consist of observations published in the Acta Hassiennia, and other similar collections, and of the letters sent by him while on his travels, to P. Bartholine, under whom he had been educated. The letters, Haller observes, are the most valuable of those published by Bartholine in his "Epitome Medici;" but the works by which he acquired his principal celebrity, were "De ortu et progressu chimiae," published in 1668, 4to.; and his "Hermetis Egyptianorum et Chemicorum sapientia, ab H. Conringio vindicata," 1674. In this very learned and elaborate work, the author defends the character of the ancient Egyptians, against the censure of Conringius: attributing to them the invention and perfection of chemistry, and even of alchemy; persuading himself that among their secrets they possessed the art of transmuting metals. But either from intemperance, or a desire of victory, he cites several manifcripts, since known to be spurious, as genuine, and some written since the time of our Saviour, as of much higher antiquity. Notwithstanding these blemishes, the works have great merit. He flew from an unbounded authority that the Egyptians were early acquainted with the medical properties of several of their plants; that they used salmone, and even mineral preparations, some of them prepared by chemistry; that incubation, or the method of hatching eggs by artificial heat, was first used by them; in fine, that the art of medicine, invented by them, passed from them to the Greeks. Borrichius was also author of "Conspicibus praedecessorum scriptorum lingae Latinae," "Cogitationes de variis lingue Latinae etatibus," "Annalæ philologicae et judiciium de lexiæ Latinae Graeciae," and various other philosophical works. Elov. Dict. Hist. Gen. Dict. and Haller's Bib. Med. Præct. where will be found the titles of the dissertations, and an analysis of the principal works.

BORROMEAN ISLANDS, in Geography, two islands situate in the bay of the lake called "Lago Maggiore," or "Lago di Locarno," in the Milanese, so denominated from their having belonged to the Borromeo family. One of these islands is called "Ifola-Bella," and the other "I sola-Madre." They are about a league distant from one another, and derive the various beautiful scenes and objects which they present from the taste and liberality of the counts Renatus and Vitalian Borromeo. They were originally barren rocks; but, with immense labour and expense, they were furnished with numerous terraces, grotoes, gar-
dens, fountains, groves of cedars, cyprises, citron-trees, orange-trees, bared, &c. which render them feenes of enchantment, and a kind of terrestrial paradises. For a particular description of them, see Keyller's Travels, vol. i. p. 374, &c.

BORROMEO, Charles, Cardinal, in Biography, the son of count Gilbert Borromee, and a fellow of pope Pius IV., was born at the castle of Arona, in 1538; and having made a considerable progress in literature, he was called to Rome on the accession of his uncle to the papal chair, in 1540, and invested with the dignities of cardinal-nephew, archbishop of Milan, and president, legate of Ancona, Bologna, and Romagna, and protector of several crowns and religious orders. At the age of 22, he was entrusted with the government of the most important affairs of the church; and he principally contributed to that encouragement of literature and patronage of learned men which distinguished this pontificate. He instituted at his house an academy, to which all the learned men at Rome repaired, when the business of the day was concluded, to discuss literary questions, and particularly such as related to sacred subjects. The works of this society have been published in several volumes, under the title of "Notae Vaticane," to denominate because its assemblies were held at night in the Vatican. In conformity to the directions of his uncle, he began his public career with great magnificence and splendour, more anxious to do honour to the pope and the rank ascribed him by his favour, than to gratify his own inclinations; but when the council of Trent filled its decrees for the reformation of clerical manners, he set an example of obedience by dismissing at once 80 domestics, discarding silk from his dress, and fasting every week on bread and water. In co-operation with the decrees of the council, he exerted himself in promoting a better education among the clergy; and with this view he instituted a number of seminaries in his own diocese, and in other places. He founded the Jesuits' college at Milan, and was eminently instrumental in erecting a magnificent edifice for the university of Bologna. He took pains in correcting the writings of some doctors of the church, which had been corrupted, and employed Achilles Statius for this purpose; and he was also active in establishing the congregation of eight cardinals, for resolving doubts and obviating difficulties that might arise in the explication of the decrees of the council of Trent. Although he was urged by his parents, and even by the pope, to prevent his family from becoming extinct by entering into a married state, he preferred remaining in the church; and notwithstanding many impediments arising from ill health, a weak voice, and defective articulation, he determined to become a preacher, and by assiduous and persevering application overcame all difficulties. After the death of his uncle, he removed to his archbishopric, and devoted himself to the duties of his pastoral office, which he performed with great honour to himself, and very much to the satisfaction and edification of the people. He took great pains in the reformation of religious orders, and in administering communion to the remotest parts of his diocese. During the plague, which afflicted the city and diocese of Milan in 1576, he continued in the scene of danger, by his presence imparted comfort to the sick and dying, and sold his goods in order to furnish himself with means for relieving their indigence and distress. He also convened several provincial councils and synods, and obtained their sanction in enacting and enforcing various useful regulations for the government of the church. His incessant labours and sufferings impaired his feeble constitution, and terminated his course of active and exemplary service at the early age of 47 years, in 1584; and pope Paul V. bestowed upon him, in 1610, the honours of canonization. Few saints in the calendar better deserve this distinction. Borromeo's writings on subjects of faith and morals were numerous; they were collected in 5 vols. fol. and printed at Milan in 1747. His "Aeta Ecclesiæ Mediolanensiæ" was published in folio, in 1510. Moroni. Nouv. Ditt. Hist. Fabr. Bibl. Græc. t. 21. p. 718. The life of Borromeo was published by Père Tournon, in 3 vols. 12mo. Paris, 1761.

BORROMINI, Francis, an Italian architect, was born in 1599, at Bifoll, in the diocese of Como, and studied sculpture first at Milan, and afterwards at Rome. Under the patronage of Maderno, his relation, who was the architect of St. Peter's, he directed his principal attention to architecture; and upon the death of Maderno in 1639, he worked under his successor Bernini; and, protected by Pope Urban VIII., he was employed about the church of S. Ignazius and the Barberini palaces. At length he became the rival of Bernini; and acquired such a degree of reputation, that the king of Spain engaged him to furnish a design for the enlargement of his palace at Rome; and though he was never excelled, he received a liberal remuneration of money, and was honoured with the order of St. James. The pope also bestowed upon him the order of Christ, and a pension. In this career of prosperity, the extravagance of his taste incurred the censure of several critics; and he was charged, by Bernini, with corrupting the sound principles of the art. The clamour against him prevailed, and his rival obtained the direction of a building for which he had prepared the designs; upon which he retired in disgust into Lombardy. On his return, he employed himself in preparing a set of grotesques for engraving; but the mortification he experienced preyed upon his spirits, and produced occasional derangement of mind; and in one of his paroxysms, he seized a sword and gave himself a mortal wound, in his 68th year. Borromini affected singularity, and indulged a capricious and fantastic taste in his designs and decorations, which was utterly insufficient with simplicity and propriety. Accordingly some have represented his style in architecture as resembling the literary style of Seneca, and of the poet Marino. Vain of his own imagined superiority, and jealous of his brethren, he declined to concur with them; and before his death, destroyed all his designs, leaving other architects should pass them off as his own. His best work, among many performances, in churches and palaces at Rome, which blend striking beauties with singularity, is accounted to be the college of the Propaganda. The oratory of the Chiefa Nova, and the house of the fathers are also admired. D'Argenville. Gen. Biog.

BORROWDALE, in Geography, a picturesque district of Cumberland, near Keswick, South of Derwent-lake, commencing at the cataract of Lowdore, and spreading its tremendous rocks in a vast sweep round the head of the lake, at the distance of about half a mile from the shore, which is bounded by meadow-land to the brink of the water. The aspect of these rocks, with the fragments that have rolled from their summits, and which lie on each side of the road, prepare the curious traveller for the awful ruin to which he approaches in the gorge or pass of Borrowdale, that opens from the centre of the amphitheatre, which bounds the head of Derwent-water. Dark rocks yawn at its entrance, and discharge a narrow pass, running up between mountains of granite, that are shattered into almost every possible form of horror. Above, the whole scene resembles the accumulations of an earthquake or volcanic eruption, splintered, shattered, and smashed in piles over one another. Huge cliffs have rolled down into the glen below, where, however, remains a miniature of the most delightful pastoral
beauty on the banks of the river Derwent. Among the most lovely of the fells are Garvan, exhibiting rock upon rock, and Egglestong, where that bed of till has lately been accenuated to build its wall; but the depredations annually committed on its young, has driven it from the place. Here the path extends for a mile over a frightful road, that climbs among the crags of a precipice that hangs over the river, with frequent glimpses into glee and chimneys, feemingly obliging farther progres by fallen flowers of rock, and at length reaching the gigantic stone of Boulder, that appears to have been pitched into the ground from the fundamant of a neighboring fell, and in its shape resembles the proof of a house revered, the side towards the road projecting about 12 feet over the base. The dimensions of this huge mass are as follow: its length is 62 feet, its perpendicular altitude 36 feet, its circumference 87 feet, and it contains 2350.5 solid feet; its weight is 1771 tons 13 hundred. The returning traveller is presented with an opening view over the Derwent lake of the Skiddaw-mountain, and the upper flees of Saddle-back obliquely seen towards the cald, and rearing itself far above all the heights of the eastern shore. At the entrance of the gorge, the village or hamlet of Grange lies picturesque on the bank of the Derwent, among meadows and woods, and shelters itself under the rumous fell, called Cattle-crag, deriving its name from the cattle or fortresses, which hom its summit once guarded this important pa. Borrowdale abounds in valuable mines, among which some are known to supply the finest waddl, or black lead to be found in England. These mountains also furnish quantities of iron-stone, slate, and various kinds of stone. Radcliffe's Journey in 1734, vol. ii. p. 53 56.

BORROWSTONNESS, or Bowness, a town of Scotland, in the county of Linlithgow, having a harbour on the south side of the frith of Forth, and surrounded with coal-pits and salt-works, which produce the principal exports of the place. It has a good pier and harbour of late construction: 15 miles W. of Leith and 4 N. of Linlithgow.

BORSALO, or Borsal, a town and kingdom of Africa, in Negroland, not far from the sea-coast, and extending along the northern bank of the river Gambia, as far as Tannaganda. The town of this name is in the middle of the country, about 45 leagues from the coast. In the country which is little known, there is a river of the same name.

BORSSELLA, in the Glos Works, an inlinement where with they extend or contrat the galleys at pleasure; also smooth and levigate them.

BORSEHOLDER. See Borough, Head.

BORSHE, in Geography, an abbey about half a league from Aix-la-Chapelle, celebrated for its mineral waters, of the same general quality with those of Aix-la-Chapelle, and recommended as warm baths in similar diseases, and also in dropsical and reedematous canes. They consist of the upper and lower springs; the lower, which supply the baths, raising the thermometer to 158°, and those of the latter to 127°. They are less plentiful than those of Aix-la-Chapelle; and abound much with felonies, which infalls the pipe through which they pass, and also the sides of the bath.

BORSIPA, or Borsita, in Ancient Geography, Semnus, a town of Babylonia, according to Josephus and Strabo; represented by the latter as consecrated to Diana and Apollo, and placed by M. d'Anville on the eastern bank of the Euphrates, about the 23rd degree of latitude.

BORSK, in Geography, a town and dioclet of Russia, in the government of Upha, seated on the river Belaya. M. lat. 50° 30'. L. long. 55° 15'.

BORSNA, or Borzna, a town and dioclet of Russia, in the government of Tchernigof, seated on a rivulet of the same name, falling into the Dniefa; 5 miles S. of Tchernigof, and 34° S. of Peterburg.

BORSOD, a town of Hungary, and the capital of a country of the same name; inhabited by Hungarians, Servants, Bohemians, and Germans, and furnishing good wine and grain.

BORSE, a small island of Denmark, 2 leagues N. E. from Aaprade, on the east coast of Skelow.

BORSHELD, in Geography, a town of Germany, in the circle of Westphalia, and bishopric of Osnabruck, 8 miles N. of Furtinae.

—also, a town of Germany, in the duchy of Holstein, 14 miles S. E. of Brambode.

BORTSTLING, in Ichthyology, synonymous with barling, or barfishing, the common perch, percus fluviatilis. See Mardgl. Danub.

BORSIE, in Zoology, the name of the badger, usius miles, in Poland. The same animal also bears the names of javextis, kubski, and sitk, in that country.

BORSZEWRA, in Geography, a town of Poland, in the palatinate of Kiov; 10 miles W. of Kiov.

BORT, a town of France, in the department of the Gorreze, and chief place of a Canton, in the diocese of Ufäß. The place contains 1752, and the canton 6503 inhabitants: the territory comprehends 140 kilometres, and 10 communes: distant 4 leagues S. E. from Ufäß.

BORTHWICK, in Topography, a parish and village in the county of Edinburgh, Scotland, is noted in the historic page for a magnificent castle which was built here by William I. lord Borthwick, about the year 1450. In its complete state it was very extensive, and considered almost impregnable, but Oliver Cromwell laid siege to it in 1650, and forced the garrison to surrender. "It is seazed," observes Mr. Pennant, "on a knowl, in the midst of a pretty vale, bounded by hills, covered with corn and woods; a most picturesque scene. It consists of a vaft square tower, 90 feet high, with square and round battlements at equal distances from its base. The flat rooms are on the first story, once accessible by a draw-bridge. Some of the apartments were very large; the hall 40 feet long, and had its music gallery; the roof lofty, and once adorned with paintings. This place was once the property of the earl of Bathwol, who, a little before the battle of Carbury hill, took refuge here with his fair consort." The parish contains 260 houses, and 665 inhabitants. Pennant's Tour in Scotland, 4to. vol. iii.

BORTZUTIM, a town of Transylvania, 12 miles N. of Claunenburg.

BORDA, a town of Portugal, in the province of Alentejo, 2 leagues from Villa Vicofa.

BORVIASA, a town of Russian Tartary, on the north side of the Don, 64 miles E.N.E. of Azof.

BORSOWY, a town of Lithuania, in the palatinate of Mind, situated on the river Berezyna, 36 miles E.N.E. of Mind. N. lat. 54° 14'. L. long. 29° 36'.

BORYSTHENES, in Ancient Geography, a river of Europe Sarmitas, forming almost the whole western boundary of Sarmatic Scythia. Its name is said to be derived from the language of the Scalli or Slaves, who, in their migration, blended themselves with the Scythians. It signifies "a rampart formed by a forex of pines," being derived from bors, a forest of pines, and pens, a wall. As a confirmation of this etymology, it is alleged that the shores of the Borysthenes are covered with forests of pines. Melas, deducting his description of this river from Herodotus, (l. iv. § 53.) represents it as flowing through a country of the same name.
name, and as the most pleasant river of Scythia, more gentle in its course than any other, and affording water more agreeable to drink. He adds, that it enriched many pleasant palaces, and that it supplied very large fishes without bones. It flowed from different and unknown springs, which lay, according to Ammianus (xxix. 5. 18) in the mountains of the Nauris, and was discharged through a course of 40 days' falling; and in this interval received many large rivers. After its junction with the Hypanis, it discharged itself into the northern part of the Euxine, now called Dnieper or Niwor, which see. — Allo, a town of European Sarmatia. Stephanus Byz. represents it as a Greek city, being a colony of Mileta, seated near the mouth of the river of the same name. By some it was called Bithynia, by its inhabitants Olba, and by Pliny Metropolis; probably the same that is now denominated Geumhun, which see.


Borza, in Geography, a town of Perus, in the province of Alettanaitza, 48 miles S. of Tauris.

Borzingkoi, a town of Siberia, on the Argua; 144 miles S. E. of Nertchint.

Bos, in Antiquity, was peculiarly used for an ancient Greek silver coin, which was didrachm, or equivalent to two drachmas.

Bos, Lambert, in Biography, an eminent philologist, was born at Wocum, in Holland, in 1672, and became Greek professor at Franeker, in the excheer of which office he acquired great reputation, and where he died in 1717. His profound erudition is honourably mentioned by several writers, and particularly by Fabricius, and by Hemsterhuis in his oration De lingua Grecce pretantis. His treatise on the Greek ellipsis is held in high estimation by grammarians. His other principal works are, "A new edition with additions, of the Greek grammar of Vitruvius," an edition of the Septuagint, with prolegomena and various readings, 2 vols. 4to. Franeker, 1709; "Thesauri Magellaeorum cum notis," "Exercitationes Philologicae," "Nouvelles lozes nonnulla illustrantur," 1709, and 1713, 8vo; "Myth. Elliptici Graeci expositi specimen," "Antiquitatum Graecarum distinctio," and "Animadversiones ad editiones quasdam Græcorum." Nouv. Dic. Hist.

Bos, John Baptist Du, the son of a confederable merchant and magistrate of Beaurvais, in France, was born at that place in 1670, and finished his studies at the Sorbonne. He afterwards became a distinguished writer, and a member of the French academy. In 1699 he was one of the committees for foreign affairs under Mr. Torey, and was afterwards charged with some important transactions in Germany, Italy, England, and Holland. After his return to Paris, he was made an abbé, and had a pension. He was also chosen perpetual secretary of the French academy, and in this situation he died at Paris, March 23, 1743. His principal works are, "Critical reflections upon poetry and painting," of which the best edition is that of Paris, 1700, 3 vols. 12mo. "A critical history of the establishment of the French monarchy among the Celts," of which the best editions are those of 1713, in 2 vols. 4to., and in 4 vols. 12mo.; "The history of England ill understood in the present war," 1714; "The history of the four Gordians, confirmed and illustrated by medals," and "The history of the league of Cambrai, formed in 1708, against the republic of Venice," of which the best edition is that of 1728, in 4 vols. 8vo.

Bos, or Bosche, Jeron, an ancient painter and engraver, was born at Bois-le-Duc, and took pleasure in painting devils, witches, and enchantments. His pictures, distinguished by the freedom of his touch, and the strength of his colouring, are held in high estimation, though, from the nature of the subjects which he selected, they excite a degree of horror blended with admiration. The most remarkable painting of this master, among several others of a similar kind, in which he indulges a wildness of imagination, is an allegory of the pleasures of the field; representing the principal figure, drawn by monstrosous imaginary forms, preceded by demons, and followed by death. He was also an engraver, and the first artist who attempted to engrave in the grotesque style; and he is said to have been more distinguished by fertility of invention than by a correct judgment. The two plates, most deserving of mention, are one representing St. Christopher, carrying the infant Jesus across the water and bending under his load; on the left is a hermit, coming from his cell with a hearth, and the whole composition is surrounded with small grotesque figures of all shapes, in the most ridiculous attitudes; and another is the "Laid judgment," in which Christ appears seated on a rainbow, with two angels on each side and sounding trumpets, having on their labels this inscription, "The eye dies queen fest;" "forgive mortals, virtue ad judicium," and at the bottom are small figures of men and devils of all shapes intermixed. To both these prints is affixed his name, "Bosche." He died in 1560. Pilkington and Strutt.

Bos, John Lewis, or John Lewis de, a painter, was born at Bois-le-Duc, and having received instructions in painting from the artists of his native city, he applied himself to study after nature, and became eminent for the truth of his colouring, and the neatness of his handling. His favourite subjects were flowers and curious plants, which he grouped in vases of glass or crystal, half filled with water, and to which he gave a peculiarly natural and pleasing appearance. He also exhibited on the leaves of his subjects the drops of dew with singular transparency, and embellished them with butterflies, bees, wasps, and other insects, in a manner superior to that of any co-temporary artists. In the style of his portraits he was no less excellent than in his composition of still life. He died in 1597. Pilkington.

Bos, in Zoology, the Ox, a genus of animals in which the horns are concave, or hollow, turned outwards, large and smooth; front teeth in the lower jaw eight; canine teeth or tusks none.

There are but few species of this tribe that appear to be really domestic; but the number of varieties into which they are divided, arising from the differences of climate, domestication, and other causes, are countless. They are a most valuable race of animals to mankind, their flesh and milk affording excellent nourishment; and, being useful as beasts of burden, and their hides serve many domestic purposes. The species are Taurus, or the common ox, which comprehends the varieties of forms and domesticus, Americanus, moschatus, graminivorus, and burmi, according to Gmelin. To these are added, by later writers, the Bovus of Kerr; the Bovus of Aristotle, and the Bovus of Africa, under the names of Bos Barbatus, and Pamiss, which see.

Bos, Henry, Aldrovanus, see Strepsiceros bos.

Bosa, in Geography, a maritime and episcopal town of Sardinia, situated on the western coast of the island, near a river of the same name. It is defended by a castle, and has a good port; distant 18 miles S. W. from Algieri, and 86 S. S. W. of Saffuri, to which it is suffragan. N. lat. 40° 18'. E. long. 8° 34'.

Bosara, in Ancient Geography, a town of Arabia Felix, according to Prolemy.

Bosaraddaba, or Jesarbecca, a town of Asia, in the province of Sabletan; 21 leagues S. of Canthalar.
BOSSOCK, Bosse, Bosse des Bois, and Forest
Antelope, in Zoology, the name of Antelope Sylvatica
(Gazell.) by different writers. See Sylvaticus.

BOCCIO, CLAUDIO, in Biography, an engraver, was a
native of France, and being invited to England by Nicholas
Dorigny, assisted him for some time in engraving the
carvings of Raphael; and afterwards separating from Dorigny,
he undertook to engrave the caricatures for the printmakers.
He also engraved the duke of Marlborough's battles, for
which he received 30l. per plate; and, assisted by Du
Guernier, and afterwards by Beaumes and Baron, he com-
pleted them within two years in 1717. He then became
a print-maker, and published, by subscription, the transla-
tions of Pecant's Religious Ceremonies. As an engraver he pos-
sessed no great merit; his style is coarse and heavy, and the
drawing of the naked parts of the figure in his plates is very
defective. However, he engraved from several great masters.

The "Continence of Scipio," from a picture of Nicholas
Poussin, in the Houghton collection, is one of his plates. He
expired in 1774. Strutt.

Bocce, PIERRE DU, an eminent protestant preacher of
France, was born at Bayeux in 1623, educated at Montau-
ban and Saumur, and in 1645 ordained one of the ministers
of Caen. The fame of his eloquence was very extensive; and
he was warmly solicited by the churches of Chartres and
Paris to become their pastor, but he preferred continuing at
Caen. His reputation excited curiosity and alarm; and he was
falsely charged with having used offensive language with
regard to auricular confession, and on this charge exiled to
Chalons. But his talents and character were held in such
high estimation, that powerful intercession was made in his
favour, so that he was permitted to return in the same year,
1654, to Caen. His return was the occasion of very general
rejoicing among persons of all parties; and it was celebrated
in a very singular manner by a Catholic of free character,
who invited two Franciscans to an entertainment, and urged
and linking to such a degree, that one of them died on the
spot. Next day he paid his respects to M. Du Bocé, and in-
formed him, "that he had thought it his duty to sacrifice a
monk to the public joy; that the offering would have been
more suitable if it had been a Jesuit, but he hoped it would
not be unacceptable, though only a Franciscan." M. Du
Bocé was selected, on account of his distinguished character
and address, to draw up remonstrances against the severities
which were exercised by the Catholics against the Prote-
stants; and on all occasions he expressed his loyalty to the
king, and such a disposition to submit to civil authority, that
he frequently succeeded in obtaining relief, and in checking
the rage of persecution. At length, however, viz. in 1667,
the violence of the adversaries of the Protestants became
irrefrangible, and the parliament of Normandy inflicted an
arrest, which prohibited Du Bocé from the exercise of his
ministry. Upon this he retired to Holland, and discharged the
duties of his ministerial office at Rotterdam, till his death,
which happened in 1692. During his life he printed two volumes
of sermons; and after his death, his post-in-law, M. le Gendre,
published a collection of public papers, speeches, letters on
theological subjects, Greek, Latin, and French verses, &c.

GEN. DIČ.

Bosc, Hippolitus, taught anatomy and medicine at
Ferrara, towards the end of the 16th century. He was also
a distinguished practitioner of surgery. His works are
"De curulis vulneribus capitis, brevis methodus," Ferr.
1660, 4to.; "De facultate anatomica, lectiones viij. cum
qui/udam obseruationibus," 1665, 4to.; a judicious and useful
compendium, intermixed with some valuable notes and ob-

BOCCE, or Boccius, IGNATIUS, published at Ingolstadt,
1583, 4to. "De lapidibus qui nacuatur in corpore humano,
ac precipue rubinis, ac veiicis, et ifpbrum curatur,"
Bierr.

BOSCAWEN, in Geography, a township of America, in
Hillsborough county, New Hampshire, seated on the western
bank

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BOS

bank of Merrimack river, above Concord; 43 miles N.W. from Exeter. It contains 1108 inhabitants; and in its vicinity are the Boscawen hills.

BOSCAWEN'S ISLAND, a name given by captain Wallis, in 1767, to an island in the Southern Pacific Ocean; called by the natives "Kootah." It is separated from Keppel's island, called "Neootaabooaboo," by a channel 3 miles broad. They are both situated in S. lat. 17° 55'. W. long. 173° 48'. Kootah is very lofty, of a conical form, between two and three miles in diameter, and lies N.E. from the other. Both are populous and fertile. They were discovered by Schouten and le Maire, May 10, 1616. Schouten, who, after bartering with the natives for cocoa-nuts, in return for nails and beads, was attacked by them from their canoes, called them 'Traitors' and Cocoa islands, in consequence of the reception he met with. Captain Wallis exchanged with the inhabitants of Neootaabooaboo some bowls for fowls, fruit, and one of their clubs. Perouse saw Kootah Dec. 20, 1787, and having examined both the islands, lay in a bay upon the west coast of the larger division of Neootaabooaboo. The natives brought off the finest cocoa nuts he had ever seen, with other vegetables, as well as some fowls and a hog; they seemed to manifest no apprehension, and traded very freely. They resembled the more southern islanders in every thing, except that their looks indicated a ferocity, like that which characterizes their northern neighbours. A rocky bank, two or three leagues N. of Kootah, was found in 1616, covered with 14 fathoms of water. Missionary Voyage, Intro. p. 67.

BOSCH, BALTHASAR Vanden, in Biogrophy, a painter of conversations and portraits, was born at Antwerp in 1675, and first studied, after the manner of Teniers, those subjects which were apartments decorated with bullys, vases, pictures, and other curiosities; but in process of time he employed his pencil on subjects of a more elegant and elevated kind, and acquired a superior style of performance. He also painted portraits with great reputation, and particularly a portrait of the duke of Marlborough on a horse, painted by Van Bloemen. His paintings fetched an extravagant price, exceeding that produced by the performances of Teniers or Oiade, with which they cannot, in reality, pretend to any competition. His pencil is light, his touch spirited, and his figures, more elegant than those of most of his contemporaries, are drest in the mode of the time. In some of his works the composition and design, and also the colouring, are very good, and the subjects are judiciously chosen. He died in 1715. Pilkington.

BOSCH, JACOB Vanden, a painter of still life, was born at Amsterdam in 1636, and painted summer fruits of various kinds with a neat pencil, and with such an exact imitation of nature, that they appeared delicious, and almost real. He died in 1676. Pilkington.

BOSCHADIS, in Zoology, a species of Echinorhynchus, that infests the intestines of the domestic duck. The neck is filiform, and the proboscis slightly extended.

Goeze Essayw.

BOSCHAS, Anas Bofchas, in Ornithology, the Common Mallard, or Wild Duck, the specific distinction of which consists in the plumage being of a cinereous colour; the tail feathers (of the male) recurvate; bill straight; collar white. Lin. Fu. Suec. &c.

Gmelin mentions several distinct varieties of this bird, in the Syl. Nat. the characters of which are described as follows:—Cirrhata, above grey, beneath white, crec' cinereous; pericea, head and upper parts of the neck cinereous, beneath yellowish; major, back footy. This is larger than the others, measuring two feet and a half in length. Grijsa, entirely cinereous, with the legs and bill black; nivea, with the back black, spotted with yellowish; nigra, having the head and collar black.

The natural history of the wild duck is detailed so amply by different writers, that nothing new remains to be added by us. Dr. Latham, in particular, has entered at great length in his judicious compilation on this subject. The wild ducks, observes the writer, are frequent in many parts of England, but no where in more plenty than in Lincolnshire, where prodigious numbers, according to Mr. Pennant, are taken annually in the decoys, each decoy paying for five pounds to twenty, annual rent. In Somersetshire the rental of a decoy yearly has been known to amount to even thirty pounds.

With us these birds pair in the spring. They breed in all the low marshy grounds, laying from ten to fifteen eggs. It is observed of the young, that they always take to the water as soon as they are hatched. The old birds are very artful. They do not constantly build their nest close to the water, but many times at a distance from it; in which case the female takes little breadth in its beak, or between its legs, one or two at a time, to the water side, and going into it herself, the young ones follow instinctively. Wild ducks are known sometimes to lay the eggs in a high tree, in the deserted nest of a crow, or a magpie. Dr. Latham speaks of an instance that took place at Etchingham, in Sussex, in which the female was found sitting upon nine eggs, in an oak twenty-five feet from the ground. The eggs were supported by some small twigs laid crossways.

In England only a comparatively small number of wild ducks are found in the summer; because, at that time, they remain in the more northern parts of Europe, and only return to us towards the winter. In France this species is not often seen till the winter; appearing in October, and again departing northward in the spring. They are caught in that country, as with us, in decoys, the chief of which are in Picardy, where prodigious numbers are taken, especially on the river Somme. They have also another method: a sportsman, with a cage of tame decoy ducks, takes his station in a certain place, near which is a concave, the flock will pass. If they approach so near as to allow him to fire, he takes them with little trouble; but if otherwise, he lets fly one of the tame decoy ducks, then a second, and so on: these tame birds entice the wild ducks in small parties within reach of the sportsman's fowling-piece, who is thus enabled to kill six or seven birds at every shot. They are now and then taken also by means of a hook, baited with a bit of sheep's lights, which, swimming on the water, the bird swallows the bait, and hook with it. Divers other methods of catching the wild duck are peculiar to different nations, of which one seems worth mentioning, on account of its singularity; and this is the practice in India. The perfon wishing to take these, wades into the water up to the chin, and having his head covered with an empty calabash, approaches the place where the ducks are; when they, not regarding an object of this sort, suffer the man freely to mix with the flock; after which he has only to pull them by the leg under the water, one after another, till he is satisfied; returning as unsuspected by the remainder as when he first came among them. This mode of capture is common on the river Ganges, only that the duck-hunters use the earthen vessels of the gentoes, instead of calabashes. These vessels are what the gentoes boil their rice in, and are called kutchare pots, which, after being once used, they look upon as defiled, and in consequence throw them into
the river as useful. The ducks, from constantly seeing
the fish float down the stream, regard them as little as
the corks, and the duck hunter, concealing his head
more of them, can seize upon them without exciting
the least suspicion. A similar method is also practiced in China,
and in South America, to take the wild duck.

**Bosch**. _Amur fera five Boschian museum_. Brit. A
ferna is Alm Clyspecta, the Shoelover, var. 2. See
_Clypeata._

**Buckley, R. John Brittoni.** The Garganey. _Anas
Queriquilla_. Call'd by this name, both in Gelen's

**Boschi, Boeschi, or Bosch, in Geography, a town
of Italy, in the Province of the Milanese, seated on the
river Oltre, five miles E. from Alexandria.

**Boscia, in Botany, (in honour of Bosc, author of part
of the Zoological and Botanical articles in " Nouveau Die-
trie de l'histoire naturelle," now publishing at Paris)
Musken, 266. Clasf, _tecssulbro trigylata_. Gen. _Call.
perianthus_, four-toothed. _Cor._ four-petalled. _Pericarp._
cells, four-celled.

Species B. _pedulata_, Thunberg, " Leaves opposite, lanceo-
late, wavy." A shrub. Native of the Cape of Good
Hope.

**Boscia.** _La Mark_ (Izlaft. P1. 395) _Clad, dodecandra
magigia_. Gen. _Call._ _Col._ perianthus, four-leaved. _Cor.
none. Stem. filaments long; anthersdidymous. _Pfl._ germ
on a pedicle, as long as the filaments; _tile_, none; _ stigma_
pointe. _Pericarp._ a nut. _Seed._ one.

Species B. A shrub. _Leaves_, oblong-ovate, alternate,
on short petioles, strongly reticulated, coriaceous. Flowers
in a terminating corymbus. A native of Africa, in the
neighbourhood of Gorce, where the negroes cut the kernel
of the nut. This plant does not appear to be known
at Willenow. It will, doubtless, soon receive another name,
as Thunberg's plant seems to have got the first publication.

**Boschius, John, in Biography, a native of Liece-
of considerable learning and abilities, was invited, in 1538,
to the chair of professor of medicine, at Ingolstadt, which
he held with credit several years. His works are, "De
perle liber," published originally in German, in 1502, 4to;
"Concordia philosphorum, ac medicorum, de humano
corpus, atque factus incremento, animato, mora in
utero, ac nativitate." Ingol. 1576, 4to. and 1588;
"Oratio de optimo medico, et medicorum, inter-
curationes Ingolssarifensies." Haller Bib. Amat.

**Bosco, in Louis. See Attaccamenta de bosco et
spinis.**

**Bosco bel, in Topography, in the parish of Donnington,
in Shropshire, is a place memorable in English history, for
the oak tree, wherein King Charles the Second secreted
himself, after the desperate battle at Worcester. Finding
it impracticable either to escape into Wales, or to reach
the metropolis, in safety, and knowing that many of his enemies
were searching for him, in the immediate neighbourhood, he
was prevailed on by Major Carls (who accompanied him)
to seek protection in a large oak tree. Here they feasted
themselves one whole day, and saw some of Cromwell's
soldiers seeking for the king in an adjoining wood. After
the restoration, this tree became highly venerable, and nu-
merous persons went on pilgrimage to see it. A great part
of it was cut away, and converted into tobacco rollers,
books of leaves, and other memorials; and many plants
were propagated from its stumps. Its remains are inclosed
with a brick wall, the inside of which is covered with laurel.
The 29th of May, the day of his birth, and of his resto-
ration, is still commemorated in England, by an annual
festival and holiday; and various effigies of the commu-
nity display branches, leaves, and apples of the oak tree.

Near Boscobel is Whitechurch. So named from being a nun-
con of white, or Cistercian nuns. The ruins of this are still
considerable, and the church is ornamented with circular
_Carte's History of England, vol. iv._ Granger's

**Bosco, or Bosci, in Ecclesiastical History, denotes
a species or tribe of monks in Palestine, who fed on grass,
like the beasts of the field.

The word is Greek, _bosco, e. d. greets_; formed from
_bosco, pso, f. feed._

The Boscoi are ranked among the number of Adamites,
not so much on account of their habit as food. They took
no care about provision; but when eating-time came, or any
of them were hungry, went into the fields, with each his
knife in his hand, and gathered and ate what he could find.

**Boscoli, Andrea, in Biography, an historical painter,
was born at Florence, in 1553, and educated under Santì di
Titi. He was the first person who had a just notion of the
chiaro-scuro, and used it successfully in the Florentine
school; where, though it had been happily practised by
Giorgione, at Venice, and also by Titian, it was not well
understood before his time. He possessed great freedom of
hand, and gave a surprizing force of colour; and both in
dignity and composition the grandeur of his style resembled
that of his master. He studied after nature; and in his
travels he drew sketches of any particular objects that struck
him; but pursuing this practice at Loretto, with regard to
the fortifications of the city, he was seized by the officers
of justice, and confined to be hanged; but he happily
e沈aped, within a few hours of execution, by the interposition
of Signior Baudini, who explained to the chief magistrate
his innocent intention. He was also an engraver; but the
subj ects of his plates are not specified either by Marcolis
or loreau le Camer. He died in 1606. Pilkington.

**Boscovich, Roger Joseph, an eminent mathematician
and natural philosopher, was born of very respectable
parents, in the free city of Ragusa, on the coast of Dalmatia,
the 18th of May, 1711. He was the youngest of nine
children, and his mother lived to the extraordinary age of
103. Six years received the boy education that their father's
circumstances could afford; and all of them, particularly the
decl, who became a priest, were distinguished by a happy
vein for poetry. Having finished his grammatical course
with applause, the young Boscovich, prompted by the
example of his brother, in his fifteenth year took the habit
of the noviciate, and entered the Jesuits' College at Rome.
There the original bent of his genius discovered itself, by
the enthralling a door with which he plunged into the
study of the mathematics. His progress in that important
branch of knowledge was so rapid as to astonish, and soon
outrun his preceptors. Under their instruction he acquired
the elements of geometry and algebra, but was left to the
exercise of his own application in perfecting the higher
parts of mathematics. He studied by himself the principles
of the differential calculus; and thus prepared, he began the
Principia of Newton, and devoted that immortal work with
the most eager avidity. He was transported by the vast
display of new and splendid truths which were unveiled;
and while, with the torch of geometry, in traced the secret
links of nature's operations, and seemed to penetrate the
concealed of heaven, he felt his passion for instruction won-
derfully inflamed; nor, in the warmth of his temper, could
he
he suppresses the movements of self-gratulation, which the
con fists of his powers and acquisitions excited in his
breath. By his persuasion, Noceti, his master in philosophy,
was induced to print a small poem on the rainbow, and
another on the aurora borealis, both of which Boscovich
enriched with ingenious notes and illustrations. The
publication of this tract spread his fame beyond the precincts
of the college, and beyond the Alps. Mairan, whose opinion
concerning the aurora borealis he had criticized, noticed it
with loud commendation, in the second edition of his
dissertation; and the praises bestowed by the French philosopher,
with the title conferred on him of correspondent of the
Academy of Sciences, could not fail to prove highly grati-
fying to his youthful vanity.

After Boscovich had completed the usual course of phil-
osophy, he was obliged, by the rules of the institution, to
 teach grammar and the classics; but he never lost sight of his
favorite studies, and he was invited by his mathematical
master, to defend annual theses, and deliver public diller-
tations on such subjects as occasion suggested. Thence he
was printed in succession, extended further his reputation. The
first appeared in 1736, and contained a theory of the solar
spots, very similar to that which was afterwards so ingen-
iously supported by professor Willon, of Glasgow. It
supsup the fan to have two atmospheres, the lower being
dense, and sometimes sprinkled with clouds; the upper, rare,
and subject to variation of height. Next year produced
two dissertations; one on the transit of Mercury, and ano-
other on a remarkable aurora borealis.

Five years had Boscovich spent in the drudgery of teach-
ing Latin, and three more were consumed in the unprofitable
study of scholastic theology, when, by a very singular indu-
gence, he was exempted by his superiors from the fourth
year's attendance, and permitted to relinquish that dark and
thorny path, and thenceforth employ his talents in exploring
Nature's wide domain. His situation now, as supernu-
merary preifet of the Roman College, was entirely suited to
his taste. To communicate mathematical instruction was
him a delightful task; and he prepared, for the use of his
pupils, a short syllabus of geometry, which comprised all
the capital truths of that science in fourteen propositions.
In the selection of the materials, in their disposition and
arrangement, he exhibited the clearness, the precision, and
noble elegance, formed after the model of the ancients. He
composed the elements of trigonometry with the same purity
of taste. But the capital part of the syllabus, his theory of
the Conic Sections, was reared by repeated efforts, and at
difficult intervals, and was not published until the year 1755.
Boscovich considered these curves as described in plane,
and applied, for his generic definition, the beautiful pro-
ducts of the directrix, which is common to them all, the
parabola being only its simplest case. In the ellipse, the ratio
of a line, drawn from any point to either of the foci, is to a
perpendicular from the same point to the directrix, in the
ratio of a less to a greater; in the hyperbola, it is that of a
greater to a less. But the author did not stop here; he
likewise investigated the properties derived immediately from
the section of the cone. He supposed it cut by a movable
plane, and showed how the former curve would hence be
successively produced. The same luminous idea he trans-
ferred to the cylinder, the spheroid, and the conoids. His
imagination loved to contemplate the fine mutation and
transition of mathematical figure, and to trace the series of
successive, yet apparently connected changes, which have
suggested the law of continuity. On that metaphysical prin-
ciple, as elucidated by the transformation of geometrical
bfa, he gave an exquisite dissertation. Other dissertations,
remarkable for their ingenuity, were incessantly delivered
to a crowded audience, at the annual examination of his
school. These treated on various difficult points in geom-
etry, astronomy, and optics; on calculating circles, the nature
of infinitesimals, trajectories, the inequality of gravity over
the earth's surface, the centre of magnitude, the laws of
bodies, living forces, the flux and reflux of the sea, the
annual aberration of the fixed stars, the limits of astronomic
observations, the use of lenses and dioptric telescopes, and a
new method of employing the observation of the phases in
lunar eclipses, on the determination of a planet's orbit, by
help of catoptrics, and on the atmosphere of the moon,
which he held to be very different from that of the earth,
and more analogous to water. In one of these dissertations
he pointed out a mistake of the famous Daniel Bernouilli,
who had hastily concluded, that the tides of the atmosphere
must rise higher, in proportion to his rarity, than those of
the ocean; in another, he shewed that the question, con-
cerning the measure of forces, which then so vehemently
agitated the scientific world, as it generally happens, was
merely a dispute of words; in a third, he sketched the out-
lines of that bold structure, which has obtained such deserved
celebrity among the learned—his sublime theory of the con-
stitution of matter.

While Boscovich was thus usefully and honorably en-
gaged in directing the studies of youth, and enlightening
the learned world by his elegant and ingenious writings, the
pleasure of his conversation was eagerly courted at Rome.
In every house of note he was always a most welcome guest,
and he reigned in every society by the ascendancy of his
talents. Before mixed companies he would freely talk of
his own speculations, which he had a singular felicity in
rendering intelligible and interesting to the most ordinary
minds; and though, on these occasions, he was not accome-
tioned to conceal his inward satisfaction, or decline bellowing
upon himself the merited encomiums, the frequent fables
of vanity seemed to flow merely from the warmth of his
character, and were effaced in the general blaze of admiration
entertained for his superior talents. Nor was it his ambition
confined within the circle of abstract science; indulging the
excursive flights of fancy, he often sacrificed to the Muses.
He composed Latin verses, on a great variety of subjects,
and which consequently posses still very different degrees of
merit. Every occurrence he was ready to seize, whether
public or private, serious or comic; wars, mutinies, jocular
and domeslic incidents, were all indifferently his theme.
He had a wonderful knack in composing those verses, with
a memory not less astonishing for retaining them; and at the
tables of his friends he took pleasure in reciting elaborate
passages. Surrounded by his disciples and partial admirers,
the sort of idolatry which he received appears, however,
to have had rather an unfortunate effect on his character, by
tempting him to overrate the measure of his powers, and
extent of his attainments. Once, and once only, he entered
the lists with his illustrious contemporaries. It was in an-
swer to the question, proposed by the Academy of Sciences
at Paris, to determine the inequalities produced by the
mutual action of Jupiter and Saturn, especially near the time
of the conjunction. His memoir was returned with much
commendation, and very few mathematicians affumed would
have felt themselves lowered, yielding the preference to the
great Euler. But Boscovich was piqued at what he con-
ceived to be an unfair decision, and would never afterwards
engage in any public competition.

A philosopher, residing in Rome, amid the venerable
remains of ancient splendor, was powerfully drawn to exa-
mine those monuments. Boscovich wrote several disserta-
tions.
BOS

considerations on the subject of antiquities, two of which were printed, and the rest circulated in manuscript. His zeal, activity, and fondness of applause, rendered him at all times accessible, and in a multitude of cases, his advice was ardently sought by individuals. Benedict XIV, a great patron of learned men, and his enlightened minister, cardinal Valenti, consulted him on various important objects of public economy, the clearing of harbours, and the constructing of roads and canals. On one occasion, he was joined in a commission with other mathematicians and architects, invited from different parts of Italy, to inspect the cupola of St. Peter's, in which a crack had been discovered. They were divided in opinion; but the sentiments of Boscovich, and of the Marquis Poleni, prevailed. In dating, however, the result of the consultation, which was to apply a circle of iron round the building, Poleni forgot to refer the idea to its real author, and this omission grievously offended the Raguini geometer. Other incidents had occurred to mortify his pride: he became at last dissatisfied with his situation, and only looked for a convenient opportunity of quitting Rome. While in this temper of mind, an application was made by the court of Portugal to the general of the Jesuits, for ten mathematicians of the faculty to go out to Brazil, for the purpose of surveying that settlement, and ascertaining the boundaries which divide it from the Spanish dominions in America. Willing to combine with that object the munificence of a degree of latitude, Boscovich offered to embark in the expedition, and his proposition was readily accepted. But cardinal Valenti, unwilling to forego the honour reflected by a man of such distinguished abilities, commanded him, in the name of the pope, to dismiss the project, and persuaded him to undertake the same service at home in the Papal territory. In this fatiguing, and often perilous operation, he was aided by the English Jesuit, Mayer, an excellent mathematician, and was amply provided with the requisite instruments and attendants. They began the work about the close of the year 1759, in the neighbourhood of Rome, and extended the meridian line northwards, across the chain of the Appenines as far as Rimini. Two whole years were spent in completing the various measurements, which were performed with the most scrupulous accuracy. In the intervals, while this great work was carrying on, the active disposition of Boscovich sought amusement and occupation in other pursuits. At night he was busy in drawing out his Elements of Conic Sections; and in the mornings and evenings, during his excursions to and from the remote stations along the mountains, he composed on horseback the greater part of his elegant Latin poem on eclipses. This singular fact reminds us of what is reported of the late Dr. Darwin, who is said to have framed, in his mind, the beautiful and harmonious episodes of the Botanic Garden, while driving in his chariot, on visits to his country patients.

This important operation of measuring two degrees on the surface of Italy, is elaborately described by Boscovich, in a quarto volume, written in his usual diffuse manner, and full of illustration and minute details. But the book is rendered the more valuable by the addition of several epistles, or detached essays, relating to the subject, and which display great ingenuity, conjured with the finest geometric taste. We may instance, in particular, the discourse on the rectification of instruments, the elegant synthetical investigation of the figure of the earth, deduced both from the law of attraction and from the actual measurement of degrees, and the nice remarks concerning the curve and the conditions of permanent stability. This last tract gave occasion, however, to some criticisms from D'Alembert, to which Boscovich replied, in a note annexed to the French edition of his works.

The arduous service which Boscovich had now performed was not poorly rewarded. From the pope he received only a hundred scudi, or about forty-five pounds sterling, a gold box, and abundance of praise. He now resumed the charge of the mathematical school, and besides discharging faithfully the public duties of religion, which are enjoined his order. A trifling circumstance will mark the warmth of his temper, and his love of precedence. He had recourse to the authority of cardinal Valenti, to obtain admission into the oratory of Caravita, from which his absence excluded him, and which yet did afford only the benefit of a free, but frugal supper. In prefixing at that social repast, the philosopher relaxed from the severity of his studies, and shone by his varied, his lively, and fluent conversation. He lived in habits of intimacy with his colleagues, and especially with his compatriot, Benedict Stay, known to the learned world by an excellent didactic poem, entitled "Philosophia Recepta," and which he elucidated by notes, containing, in a very neat compressed form, the elements of mechanics.

At this time a dispute arose between the little republic of Lucca, and the government of Tuscany, on the subject of draining a lake. A congress of mathematicians was called, and Boscovich repaired to the scene of contention, in order to defend the rights of the petty state. Having waited three months in vain, expecting the commissioners, and annulling with repeated hollow promises, he thought it better for the interest of his constituents, to proceed at once to the court of Vienna, which then supremely directed the affairs of Italy. The flames of war had been recently kindled on the continent of Europe, and Boscovich, like a true courtier, took occasion to celebrate the first successes of the Austrian arms, in a poem, of which the first book was presented to the Empress Theresa; but the military genius of Frederick the Great of Prussia soon turned the scale of fortune, and our poet was reduced to silence. More honourably did he employ some leisure in the composition of his immortal work, "Theoria philosophorum naturalis reducita ad unicum legem virium in natura existentium," printed at Vienna, in the year 1758.

This he drew up, as it is alleged, in the very short space of thirty days, having collected the materials a considerable time before; yet we must regret the appearance of haste and disorder, which deforms a production of such rare and intrinsic excellence.

After a successful visit of eleven months at Vienna, Boscovich returned to Rome, and received from the senate of Lucca, for his zealous services, the handsonmepresent of a thousand scudi, or about £450. Thus provided with the means of gratifying his curiosity, he defied and obtained leave to travel. At Paris he spent six months, in the society of the eminent men, who then adorned the French capital; and, during his stay in London, he was elected, in 1760, a fellow of the Royal Society, and he dedicated to that learned body his poem on eclipses, which contains a neat compendium of astronomy. The expectation of the scientific world was then turned to the transit of Venus, calculated to happen in the following year. Boscovich, eager to observe it, returned through Holland and Flanders to Italy, and joined his illustrious friend, Correr, at Venice, from whence they failed to Constantinople, having, on their way, visited the famous plain of Troy. In Turkey, he severely enjoyed one day of good health, and his life was repeatedly depairied of by the physicians. After spending half a year in this miferable state, he returned in the train of Sir James Porter, our ambassdor at the Porte; and having traversed Bulgaria, Moldavia, and part of Poland, his intention was to penetrate...
into Russia, if the agitation which there prevailed, on the
ruddled death of Peter, had not deterred him from executing
the project. The diary of his journey, which he published
in Italian and French, is but a poor book, full of pedantry,
and patched up of trifling and invidious remarks. Yet such
were his pride and blind partiality, that he regarded, with
contempt, the whole of his critics to which it gave occasion.
Bocovich began his travels at too late a period of
life to profit much by them.

At Rome his arrival was welcomed, and he was again
consulted on various plans of public improvement. But in
the spring of 1764, he was called by the Austrian governor
of Milan, to fill the mathematical chair in the university of
Pavia. The honours which he received provoked the jeal-
ousy of the other professors, who intrigued to undermine
his fame. He took the most effectual measures, however, to
silence them, by publishing his dissertations on optics, which
exhibit an elegant synthesis and well-arranged set of experi-
ments. These essays excited the more attention, as, at this
time, the ingenuity of men of science was particularly
attracted to the subject, by Dollond's valuable discovery of
achromatic glases.

The expulsion of the Jesuits from the dominions of
Spain prevented Bocovich from going to California, to
observe the second transit of Venus, in 1769, and which
expedition the Royal Society of London had strongly solicited
him to undertake. And as his rivals began now to
flir themselves again, he fought to dispel the chagrin, by a
second journey into France and the Netherlands. At Brus-
seels he met with a peasant, famous for curing the gout, and
from whose singular skill he received most essential benefit.
On his return to Italy, he was transferred from the univer-
sity of Pavia to the palatine schools at Milan, and refi{ed
with those of his order, at the college of Brera, where he
performed, mostly at his own expense, an observatory, of
which he got the direction. But he was still doomed to
experience mortification. Some young Jesuits, who acted
as his assistants, formed a conspiracy, and, by their artful
representations, prevailed with the government to exclude
his favourite pupil and friend from holding a charge of trust.
This intelligence was communicated to him at his baths of
Albano, and filled him with grief and indignation. He com-
plained to prince Kaminz, but implored his protection in
vain. To the governor of Milan he wrote, that he would
not return, unless things were reformed to their former foot-
ing. He retired to Venice, where, having passed ten months
in fruitless expectations of obtaining redress, he meditated
spending the remainder of his days in honourable retirement
at his native city of Ragusa. But while he waited for the
opportunity of a vellit to convey him thither, he received
the affecting news of the suppression of his order in Italy.
He renounced his scheme, and seemed quite uncertain what
step he should take. Having come into the Tuscan territory,
he listened to the counsels and solicitations of Fabroni, who
held forth the prospect of a handsome appointment in the
Lycceum of Pisa. In the mean time he accepted the invita-
tion of La Bord, chamberlain to Louis XV. and accompanied
him to Paris. Through the influence of that favourite, he
obtained the most liberal patronage from the French mon-
arch; he was naturalized, received two pensions, amount-
ing to 8000 liras, or £1333, and had an office expressly
created for him, with the title of "Director of optics for the
marine." Bocovich might now appear to have attained the
pinnacle of fortune and glory; but Paris was no longer for
him the theatre of applause, and his ardent temper became
foured by the malign breath of jealousy and neglect. Such
extraordinary favour bestowed on a foreigner, could not fail
to excite the envy of the servants, who considered him as
rewarded greatly beyond his true merit. The freedom of
his language gave offence, his perpetual egotism became
disgusting, and his repetition of barbarous Latin epigrams
was most grateful to Parisian ears. Besides, the name of a
priest and a Jesuit did not command respect; and the leniency
of autotory devotion, which he publicly professed,
had grown unfashionable, and were regarded as fiercely be-
fitting the character of a philosopher. Mirabeau, in his let-
ters from Prussia, mentions Bocovich with a degree of flight
bordering on contempt, and warmly recommends it to his
court to invite from Berlin the celebrated Lagrange, a ma-
thematician of the very highest order, and blest with the
mildest disposition.

But the geometry of Ragusa was not idle. He applied
attentively to the improvement of almanac and optics; and
his diligence was evinced by a series of valuable memoirs.
He revised and extended his former ideas, and struck out
new paths of discovery. His solution of the problem to de-
termine the orbit of a comet from three observations, is re-
markable for its elegant simplicity; being derived from the
more elementary principles of trigonometry. Not less beau-
tiful are his memoirs on the micrometer, and on achromatic
telescopes. But his situation had become extremely irksome;
and in 1783, he decided and obtained leave of absence. Two
years he spent at Baffano, in the Venetian state, where he
published his opuscules, in five volumes, 4to. composed in
Latin, Italian, and French, and containing a variety of
elegant and ingenious disquisitions connected with almanacal
and optical science. During that time he lived with his ed-
tor Remondini, and occupied himself in superintending the
pres. After finishing his task, he came to Tuscany, and
passed some months at the convent of Valombroa. Thence
he went to Milan, and infused a Latin prospectus, in which
he proposed to reprint the philosophical poem of Stay, en-
riched with his annotations, and extended to ten books.
But very few subscribers appeared; his opuscules experi-
ced a slow sale; and the imperial minister neither consulted
nor employed him in some mathematical operations which
were carrying on. Every thing but too keenly reminded
him that he was no more a favourite of the Italian public.
The vifions of glory melted away. This mortifying reflexion
preyed upon his spirit, and made the deeper impression,
as his health was much disordered by an inflammation of
the lungs. He sunk into a stupid, listless melancholy, and after
brooding many days, he emerged into a childlike infancy,
and at last became furiously mad. It was truly pitiable to
behold a man of his eminent talents reduced to such an hu-
miliating condition. The Milanese government provided
for his custody. During the heat of delirium, he frequently
exclaimed, that he would die poor and inglorious. His
religious feelings acquired new force, and he seemed to look
forward with anxious hope for that distinction in a future
world, which he thought was unjustly denied him in this
crowded state of existence. In his short lucid moments, or
fits of exhaustion, that intervened, he regretted having spent
his time in curious speculations, and considered the calamity
with which he was visited as a kind of chastisement of heaven
for neglecting the spiritual duties of his profession. In this
temper of resignation, his impassible huri, and he expired
on the 15th of February, 1787. He was interred decently,
but without pomp, in the parochial church of S. Maria Pe-
don. "Such was the exit," says Fabroni, "of this sublime
fellow, whom Rome honoured as her master, whom all
Italy regarded as her ornament, and to whom France would
have erected a statue, had the fur war of space been obliged
even to throw down some of her heroes."
The abbé Boscovich was tall in stature, of a robust constitution, with a long pale visage. His temper was open and friendly, but irritable, vehement, and impatient of contradiction. James Boswell, in his amusing Life of Dr. Johnson, incidentally mentions, that the English moralist chanceing to meet Boscovich in London, had a very keen dispute with him in Latin on some metaphysical topic. There was much heat on both sides; and the Goliath of literature treated the mathematician in his usual sarcastic manner.

Boscovich was more distinguished by the elegance of his mathematical genius, than for talents of invention. The prediction he entertained for the geometry of the Greeks, led him perhaps to undervalue the modern analysis, and rather to neglect the cultivation of the integral calculus, that distinguishing instrument of discovery, which is indispensable in making any great progress in the deeper parts of physical and astronomical science. His example, with similar ones in this country, shows the danger of indulging a taile formidable in itself, but which has a tendency to circumscribe the powers of human intellect.

The only work of Boscovich that has appeared in English, is his "Elements of the Conic Sections," which was, within those few years, translated, abridged, and somewhat altered by the Rev. Mr. Newton of Cambridge. This little treatise, we are forcible to observe, has not yet received such attention from the public as it well merits. For a view of his theory of matter, see the article CORPUSCULAR PHILOSoPHY.

BOSCU$ in Ancient Law-Writers, signifies a wood of any kind. It is formed from the Greek, bosos, I feed, as serving for pallure. In which sense, bosus amounts to the same with the Italian bosco, and French bois. Boscus is divided into high wood, or timber, called allo fujus, and haubois; and coppice, or underwood, subbosus, or subbois.


Sp. B. xvarumota. A small shrub. Leaves simple, alternate, petiolate, ovate, pointed, entire, smooth, with fine purpure nerves; flowers reddish, in loose axillary racemes. Cultivated by Mr. Miller before 1728. A native of the Canary islands. La Maree intimates a doubt whether Sloane's Jamaica plant be the same.

BOSEN, in Geography, a town of Prussia, in the province of Natangen, feated on the Satten lake; 50 miles S. of Königberg.

BOSENBRUNN, a town of Germany, in the circle of Upper Saxony, and the Vuglart; 3 miles S. W. of Oelfnitz.

BOSHAM, a town of Abyllia, near the source of the river Lebb. N. lat. 7° 40'. E. long. 36° 36'.


BOSIO, JAMES, in Biography, a native of Milan, who flourished about the end of the 17th century, and being knight-heritor of the order of Malta, conducted its concerns at Rome for a long time with reputation. Disappointed in the expectation of the advancement of his patron, cardinal Petrochini, to the papal chair, he retired and devoted the remainder of his life to pious exercises. As a writer he is known by his voluminous history of the order of Malta, entitled "Dell' storia della facra religione dell' illiustrissima militia di San Giovanni Gierosolimitano," 3 vols. fol. printed at Rome, in consequence of the arrangement of two coroners, in 1621, 1629, and 1634. This is the source whence later historians of the order have derived their chief materials. Some idea may be formed of Bofio's understanding and dis- position, from the veneration which he manifested to the wood of the real crofs, of which he wrote the history from its discovery in the time of Conantite. Antonio Bofio, the nephew of the preceding, who was also agent at Rome for Malta, published in 1633, the result of his researches into the vaults and catacombs of Rome in a folio volume, entitled "Roma Sotteranea," a work that contains all the monuments and epitaphs which he could find of the first Christians. An improved edition was published in Latin by Paul Aringhi in 1651. More. Nouv. Dict. Hill.

BOSLÉ, in Geography, a town of France, in the department of the Loiret, and chief place of a canton, in the district of Beaugency; 2 miles N. of Beaugency.

BOSNA, SERAI. See SERAJO.

BOSNA, a river of Bosnia, which passes by Serajo, and joins the Save, 50 miles N. of that town.

BOSNIA, called also Rama, a province of Turkey in Europe, being a part of ancient Pannonia, or of Turkish Illyricum, and deriving its name from the river Bosna, or from the people called Bosnici. It is bounded on the north by the river Save, which separates it from Servia; on the east by the Drino, which parts it from Servia, on the west by the Verbas, Croatia, and Dalmatia, and on the south by a chain of mountains, which separates it from Dalmatia. It is about 40 leagues long, and 24 broad; and though mountainous, it is fertile, more especially near the rivers; its arable land producing good wheat, and its pastures feeding many cattle; its mountains contain some mines of silver. Its air, foil, produce, language, and inhabitants, resemble those of Servia. Bosnia and Servia were formerly united to Hungary, and governed by their own princes; but in 1495, the Turks took possession of them; Stephen V. their last sovereign being taken prisoner by Mahomet II. and stayed alive; from that time they have been a province of the Turkish empire, which appoints beglersbeys and fanatics over them. Bosnia is chiefly inhabited by Greek Christians, together with some Mahometans, Jews, and Catholics. Its principal towns are Banjaluka, Orbach, Serajo, and Zwernick.

BOSOK, a town of Hungary, 3 miles E. of Baia.

BOSON, in Conchology, the turbo maritimus, fo called by Adanfon.

BOSOWKA, in Geography, a town of Poland, in the polkantyne of Bracaw. N. lat. 49° 20'. E. long. 30°.

BOSPHORICUM MARIME, a name given by the ancients to a species of mollusc, of a yellowish white colour, with beautiful veins of a somewhat darker hue; called also, from its transparency, phlegitor.

BOSPHORUS, or BoSphorus, formed from BOS, bos, and πόλις, polis, in Geography, a long and narrow sea which it is supplied a bulick may swim over; in a more general sense, a long narrow sea running in between two lands, or separating two continents, and by which two seas, or a gulf and a sea, are made to communicate with each other. In which sense bosphorus amounts to the same with what we otherwise call an arm of the sea, channel, or strait; the Italians, faro; the Latin, frettum, and the French pas, manche.

The name bosphorus is chiefly confined to two strights, in
in the Mediterranean sea, viz. the "Bosphorus of Thrace," commonly called the "Strait of Constaninople," or "Channel of the Black Sea," and the "Cimmerian or Scythian Bosphorus," so called, it seems, from its resemblance to the Thracian; now more commonly the "Strait of Caffa," which unites the sea of Azof with the Euxine or Black Sea.

The origin of the name is better agreed on than the reason why it was first given to the Thracian Bosphorus. Nymphius tells us, on the authority of Accarnian, that the Thracians, desiring to pass the Thracian strait, built a vessel, on whose prow was the figure of a bullock, and which was hence called fowr, bullock; and which served them for a ferry-boat. — Dionysius, Val. Flaccus, Callimachus, Apollodorus, Marcellinus, &c. say, that Io, being transformed into a cow by Juno, paddled this ferry swimming, which hence was called Bosphorus. — Arias tells us, that the Thracians were enjoined by the oracle, to follow the route which a bullock should mark out to them; and that upon hiring one up, it jumped into the sea to avoid their pursuit, and swam over this strait. Others say, that an ox, tormented by a gad-fly, threw itself in and swam over; and others, that anciently the inhabitants of these coasts, when they would pass over, joined little boats together, and had them drawn over by bullocks, &c.

Some late writers rather suppose Bosphorus to have been so called, because here was anciently the beacon-market. Tournef, Voyag. tom. ii. let. 12, and 14.

The "Thracian Bosphorus," called also the "Mythian Bosphorus," because the Myrians inhabited the country opposite to Thrace, connected the Euxine with the Propontis, or present sea of Marmae, and formed a winning channel, separating Europe from Asia, through which the waters of the Euxine flow, with a rapid and incessant course, towards the Mediterranean. This strait has been very minutely described by Dionysius of Byzantium, who lived in the time of Domitian, (See Hudson's Geograp. Minor. tom. iii.) and by Gilles or Gallus, a French traveler of the 16th century. On the steep and woody banks of this channel the ancients profusely scattered a crowd of temples and votive altars, attesting the unskilled labors, the honors and the devotion of the Greek navigators, who, after the example of the Argonauts, explored the dangers of the inhospitable Euxine. On these banks tradition long preserved the memory of the palace of Phineus, infested by the obscene laripes, which Le Clerc conjectures to have been only locusts; and of the Syrian reign of Amycus, who defied the lion of Leda to the combat of the Cella. The residence of Amycus was in Asia, between the old and the new castles, at a place called Larus Insana; and that of Phineus was in Europe, near the village of Manurome and the Black Sea. The straits of the Bosphorus are terminated by the Cyancean rocks, which, as the poets declare them, had once floated on the face of the waters; and were defined by the gods to protect the entrance of the Euxine against the eye of profane curiosity. At present there are two small islands, one towards either shore; that of Europe being distinguished by the column of Pompey. From the Cyancean rocks, to the point and harbor of Byzantium, the winding length of the Bosphorus extends about 16 miles, and its least ordinary breadth may be computed at about 2 miles. According to the statement of Oliver's "Travels" in the Ottoman Empire, p. 77, it is nearly a league long, and about 20 miles from the point of the Southern end of Constaninople to the Cyprian Islands. In its greatest breadth it is not two miles; and in several places it is so narrow, that some ancient authors say, that a person may hear the birds sing from one shore to the other, and that

BOSPHORUS, or Cimmerian Bosphorus, the name of an ancient kingdom, comprehending all the provinces that were subject to the Bosphorans princes, and bounded on the east by Colchis, on the west by the gulf Cucuteni, on the south by the Euxine sea, and on the north by the Tanais, where that river falls into the Palus Mazetic; so that it comprised the Cimmerians, Taurica in Europe, and in Asia the whole territory which lies between the Palus Mazetic and the Euxine sea. Diodorus Siculus (l. xii.) confines the kingdom of Bosphorus both between the Euxine and the boundary of Europe and Asia on that side; but Strabo (l. viii.) extends it to the gulf Cucuteni, which, with the Palus Mazetic, forms the Ilissus of the Cimmerians. The chief cities of the Bosphorans were Phanagoria, the metropolis of Bosphorus in Asia, according to Strabo, Ceti, Hermaphrodit, Stryboca, Cim-
BOSPHORUS, a city of Chersonesus Taurica, seated near the Cimmerian Bosphorus, and supposed by some writers to have been the same with Panticapeum, which, according to Strabo, was the metropolis of the European Bosphorus. But Pliny, Pontius, and Stephanus Byz. speak of them as two different cities. Strabo and Ptolomy take notice of Panticapeum, but say nothing of Bosphorus; but Procopius often mentions the latter, but never takes notice of Panticapeum; from which circumstance it has been inferred, that these two names belong to different periods, to the same city: Panticapeum being its most ancient name, recognized by Pliny, Strabo, and Ptolomy, and Bosphorus the name given to it by Procopius. Pliny, however, says, that some perfons call it Bosphorus, and that, in its origin, it was a colony of Miletians.

BOSPHORUS, a town of India. Steph. Byz.—Also, the name of a town placed by Strabo towards the Hellespont, which was ravaged under the empire of Juttinian.

BOSQUET, Francis, in Biography, one of the most learned prelates of France in the 17th century, was born at Narbonne, in 1605, and educated at Touloufe. Before he attained the ecclesiastical profition, he exercised various civil employments, viz. those of intendant of Guienne and of Languedoc; solicitor-general to the parliament of Normandy, and counsellor of state. But, in 1608, he was nominated bishop of Lodève, and entrusted by the king with the management of the national concerns; and in 1617, took possession of the bishopric of Montpellier, in which situation he continued till his death in 1676. He was held in high estimation, for his learning, piety, and charity. As an author, he acquired himself a considerable degree of reputation by his Latin translation, with notes, of the synopsis of civil law, composed in Greek verse by Michael Pellius. He also wrote a "History of the popes, who reigned at Avignon," from 1305 to 1394; and published several epistles of pope Innocent III, with learned notes. But his principal work was, a "History of the Gallican church, in the reign of Constance," written in Latin, and published with considerable augmentations in 1636, 4to. But with the omission of some liberal and spirited reflections on the fictions and errors introduced into the early accounts of the Gallican church. He also left behind him some MS. observations on the liberties of the Gallican church, and some notes on the cannon law. Gen. Dict.

Bosquet, in Ornamental Gardening, is a term applied to detached chumps or other parts of gardens, pleasurable or ornamented grounds, planted with a variety of deciduous evergreen trees, and shrubs, and herbaceous perennial flowers, either in a regular or irregular manner. They should be laid out in form suited to the nature, extent, and particular circumstances of the ground, so as to produce the greatest possible variety and effect; some being made circular, others oval or oblong, and with bending sweeps or swells outwards or inwards, and longer or smaller as may be necessary. They may be disposed with the greatest effect on the confines of extensive lawns, or other open spaces in gardens; also in parks, paddocks, the terminations of spacious avenues and carriage ways leading to the houses, especially where of considerable dimensions, being varied in situation, and distributed at such distances as to leave large intervening spaces of open land in gardens.

In the planting of compartments of this nature, in order to produce the best effect, much attention should be bestowed in regulating the sizes of the plants, their shades, and times of flowering, as well as in disposing them in the order of their different growths, so that they may rise regularly from the sides to the centres, and display themselves in the
the best and most advantageous manner in their heads and branches. It was formerly the practice to plant trees and shrubs of the deciduous and evergreen kinds, chiefly together in separate patches, but by a judicious mixture of both sorts a great richness and variety of effect are produced; various sorts of tall herbaceous perennial plants, as well as low flowering ones, may be introduced on the sides and edges, such as those of the golden rod, and other similar kinds, with daffodils, violets, polyanthuses, primroses, and many others of the same sort.

In the less extensive kinds of ornamented grounds these sorts of bosquets should always remain perfectly open and wholly exposed to view, in order that the full variety of the plants may be shown; but in extensive parks, and other similar grounds where they are chiefly planted with the more large and coarse hardy trees and shrubs, they may be enclosed with open hedges to defend them from the cropping of cattle or other animals, especially until they have acquired a sufficiently hardy and large growth.

These clumps, after being thus planted, only require the earth among the plants to be slightly dug over in the autumn, or very early spring, and once or twice hoed over in the summer to keep weeds from rising; the dead wood and irregular branches of the different plants or trees being cut out, shortened, and removed, to preserve them distinct and keep them in order. See CLUMP.

When well arranged and kept in neat order these sorts of bosquets or clumps produce much diversity and ornamental effect, both in large gardens and pleasure grounds.

BOSRA, in Geography, a town of Arabia Petraea, sunk into decay and inconsiderable note, though it is considered as the capital of the country. It is seated in the midst of the back of Palatine, on the other side Jordan, and about 130 miles from the lake, or sea, of Galilee. See BOSTRA.

BOS, or Bosse, in Sculpture, signifies relieve, or prominence. The word is French, baffe, which signifies the fame; whence also to emboss. See EMBOSSED.

Bos of a buckler, among the Ancients, the umbo, or gresso, which puts out in the middle.

Bos, among bricklayers, is a wooden utensil wherein the labourers put the mortar to be used in tiling. It has an iron hook, whereby it may be hung on the laths, or on a ladder.

Bos, Gaspar Vander, in Biography, a painter of ships, sea-views, calms, and storms, was born at Hoorn, in 1634, and manifesting an early genius for the art of painting, applied with affinity to the study and practice of it, and distinguished himself by the excellence of his composition, by a light free touch, by an agreeable tint of colour, and by a very artful manner of handling. His application was so intense as to impair his health, so that he died much regretted at an early age in 1666. Pilkington.

Boslage, in Architecture, a projecting roof, laid smooth in building, to be afterwards carved into mouldings, capitals, arms, or the like.

BOSAGES, also denote slates which seem to advance beyond the naked of a building, by reason of indentures, or channels left in the joinings, used chiefly in the corners of buildings, and thence called ruffle slates.

The cavities or indentures are sometimes round, sometimes square, sometimes chamfrained, or bevelled, sometimes in the diamond form: sometimes they are enclosed with a cassetta, sometimes with a lintel.

Boschart, Thomas Willeberts, in Biography, a painter of history and portraits, was born at Bergen-op-zoom, in 1613, and studied at Rome under Gerard Segers, with whom he continued four years. His taste of design was fine and correct, his touch free and spirited, his colouring transparent and true, and his carnations polished to much softness and life; that he was thought to approach near to Van Dyck in portrait and history; and his works were eagerly purchased. His merit recommended him to the patronage of the prince of Orange, in whose service he was employed for several years. The large picture of "War and Peace," at the Hague, and the "Martyrdom of St. George," in the great church, are much commended for goodness of expression, for excellent colouring, and for being exquisitely finished, Pilkington.

BOSSE, Abraham, a French engraver, was born at Tours, and flourished in 1636. In his performances he successfully imitated the manner of Callot; and many of his works are executed from his own designs. The figures, with which he commonly embellished his plates are drawn in a spirited style, and etched with great freedom. He afterwards retouched the etching with the graver in a bold, expeditious manner. The effect of his plates is clear and pleasing; though his lights are usually too much scattered. He was much successful in small subjects. We have a treatise by him on "The art of drawing," the best edition of which is said to be that with the additions and corrections of M. Cochin; "The school of the painter and sculptor," "The workshop of the copper-plate printer," and several other plates from his own designs; and also, "The history of the Maid of Orleans," from the designs of Vignon, See &c. Strutt.

Bossee, in Geography, a town of Germany, in the duchy of Holstein; 6 miles E. S. E. of Rendsburg.

Bossiea, in Botany, Wilden. 1242. Chils, diadelphus decandria.


Bossiney, in Geography, an ancient borough of Cornwall, in England, is reduced from its original consequence, and now consists of only a few miserable cottages; yet some of the occupiers of these dwellings have the power of electing two members of parliament. This place, with many other towns in the county, was made a chartered borough by Richard earl of Cornwall, brother of Henry III.; but the town has never been incorporated. The right of election is vested in all persons who possess lands within the borough, and live in the parish, but this number is now reduced to five or six.

Bossiney is in the parish of Tintagel, where are the remains of a castle occupying a very singular situation. The fortrefs stood partly on the main land and partly on a bold flat promontory, which was separated from the shore by an immense chasm in the cliff, over which there was formerly a drawbridge. What remains on the peninsular part is a circular ruinous wall, which incloses some buildings that appear to have been the keep. Beneath is a pajage through the rocks, where boats could pass at the time of high tides. From the extent and character of the ruins it is presumed, that this fortrefs has been a place of great strength and security. It is affented by many writers, that it was the birth-place of the celebrated British king, Arthur, but this assertion is not satisfactorily substantiated. See Arthur. The bold, stupendous cliffs about Tintagel, and along the northern coast.


BOS

coast of Cornwall, cannot fail to excite emotions of admiration and terror in the minds of most spectators. From "Tintagel to Landewednack the road winds through various rocky chains. The latter village is seated at the bottom of a deep valley, washed by a small inlet of the sea, while mountaneous cliffs encircle it. This place was formerly noted for a castle, built by one of the Bottereaux family; but no fragments are now remaining. History of Cornwall, vol. i. 290.

BOSSO, Matthew, in Biography, an ecclesiastic distinguished for his learning and virtues, was born at Verona, in 1428, and educated first at Milan, and after his admission into the congregation of canons regular of the Lateran, at Padua. His merit advanced him to several eminent offices in his order; and at Fiesole, where he superintended the canonry of St. Bartholomew, he became acquainted with Lorenzo de Medici, who appointed him his confessor; and it was from his hands, and in his church that John, the son of Lorenzo, afterwards pope Leo X. received the engravings of the cardinalate. He was offered a bishopric by pope Sixtus IV. for his services in checking the disorders that prevailed in the nunneries of Liguria, and the adjacent provinces, but refused to accept it. After having five times sustained the office of visitor, and twice that of procurator-general of his order, he died at Padua in 1503. Of his works the principal are, viz. "De falsitatis animi gaudibus;" "De infinitudine sapientia animo;" "De tolerandis adversis;" "De gerendo magistratu;" "De immoderatione mulierum culcis;" and a collection of letters and small pieces, entitled "Recuperationes Fidelissimae," printed at Bologna, in 1493, and furnishing one of the finest specimens of typography of the 15th century. Gen. Dict. Rollioe's Lorenzo de Medici, vol. ii.

BOSSO, in Geography, one of the five glaciers of Swisserland, that stretch towards the plain of Chamonzy, and unite at the foot of Mount Blanc. See Glacier.

BOSSU, René Le, in Biography, a polite scholar and eminent critic, was born at Paris in 1631; and having received the rudiments of his education at Nanterre, he was admitted a canon regular in the abbey of St. Genevieve, at the early age of 18 years, and purged the lilies of philosophy and divinity. After having received priest's orders, in 1657, he indulged his inclination to the Belles Lettres, and devoted himself for several years to the employment of teaching them. At length he retired to pass his time in tranquil study at the abbey of St. Genevieve; and in this retreat, where he was sedulously employed, published his "Parallel of the Philosophy of Descartes and of Aristotle," and his more popular "Treatise on epic poetry." He also published a small piece in favour of Boileau against St. Sarlin; but the greater number of his compositions remain in MS. at the abbey of St. John, at Chartres, of which he was made sub-prior in 1677. He died in 1680. Bossu was distinguished by a sound judgment, well regulated, but lively imagination, and a mild, benevolent character. His work on epic poetry furnishes many judicious rules, of which however, Voltaire says, that they will never make a poet. "It was left in an imperfect state; the author having intended to exemplify his rules from Horace and Virgil. The best edition is that of the Hague, in 1714, with a memoir on the life and writings of the author by father Courayer. Gen. Dict.

Bossu, in Geography, an island about 3 or 4 leagues N. E. from Trinity Point, on the north coast of the Gulf or river of St. Lawrence.

BOSSUET, James Benignus, in Biography, a famous French divine, celebrated for popular eloquence, for his talents as a controversial divine, and for his elaborate vindication of the Roman Catholic faith, was born at Dijon in 1621; and having for some time pursued his studies under the care of the Jesuits, who wished him to enter into their order, he was rescued from them by the interposition of his uncle, and in 1643 sent to Paris to finish his studies at the college of Navarre. As he had devoted himself to the clerical profession, theology was the object of his particular attention; and his favourite author was Anguifl. To the study of polite literature he dedicated a portion of his time; and whilst he was a professed admirer of Homer, he disapproved the introduction of mythology into modern poetry. And though the range of his studies was very extensive, he disregarded mathematics from a preconceived notion, that they would not contribute to make him a founder divine, or a more eloquent preacher. The philosophy of Descartes recommended itself to him by its novelty, and he adopted it, notwithstanding the reproach and perdition which it underwent. After completing his theological course, he received the degree of doctor of the Sorbonne in 1652, and then removed to Metz, where he was appointed canon of the church. Here he wrote his first polemic piece, which was a refutation of the catechism of a Huguenot minister of that town, with whom, however, he lived on terms of uninterrupted friendship. Upon his return to Paris, his eloquence as a preacher recommended him to royal patronage. In 1661, he preached before the king, and his conduct during his residence at Versailles was valued to the dignity of his profession. He soon obtained, without any solicitation on his own part, the bishopric of Condom; but when he was appointed preceptor to the dauphin, in 1670, he resigned this preferment, and devoted himself entirely to the discharge of the duties of this honourable and important office. In this situation he composed for the use of his pupil, his discourse on universal history, which, notwithstanding some objections that have been urged against it, is considered as his principal performance, and much more inductive and useful than all his theological and controversial writings. As soon as he had completed the education of the prince, Lewis XIV. advanced him, in recompense of his attention to this object, in 1681, to the see of Meaux; and in this situation of greater leisure, he employed himself in the defence of the church against both infidels and protestants. In his polemic writings he displayed much logical acuteness and dexterity in illustrating the doctrine of the church, and the variations submitting among protestants; and he dedicated his chief arguments in favour of the former, and in opposition to the latter, from the antiquity and unity of the churches; the authority of fathers, councils, and popes, during a long series of ages; the novelty of the pretensions of the reformers; the necessity of an umpire in the province of religion for settling disputes, explaining the scriptures, and maintaining order and peace; and the necessity of submitting to such an umpire, in order to prevent that disunion and variety of sects, each professing its right to interpret the divine word, and claiming the honour of being the true church, which disapproves the cause of the protestants. The latter were ably defended by the French Calvinists, and particularly by the celebrated Claude, to whom, in the controversy, some even of the catholics have allowed the superiority. Leibnitz also became a party in the dispute between the protestants and papists, and recommended, for the sake of unity and peace, mutual concessions. But Bossuet remained inflexible, and conceded only that the sacramental cup might be allowed, as a matter of favour, to the laity. He was, however, no advocate for the infallibility of the pope, or for his assumed right of deposing kings; but zealously opposed both these claims,
claims, when urged by Innocent XI. against the independ-ence of the crown, and the liberties of the clergy of France. The consequence of his opposition was the loss of the cardinal's hat, which the pope offered him as an inducement to his desiring to prosecute this dispute.

Bosselet, not content with writing on general subjects, such as the defence of the Christian religion, the catholic faith, and the Gallican church, undertook to refute the notions of the amiable Fenelon concerning quietism ; either because he considered these notions as erroneous and dangerous, or because he wished to degrade in the general estimation the character of a pervert, whom he regarded as a rival. Fenelon complained of the harshness with which he was treated; and such indeed were the impetuosity and zeal with which he entered into this dispute, that being once at court he maintained his opinion with a degree of ardour, which led the king to fay to him, “What would you have done, if I had taken part with Fenelon you?” Bosselet replied with great spirit, “I would have spoken ten times as loud.”

On another occasion, however, he was less diffident to give offence; for though he had composed theatrical exhibitions, to which Lewis was addicted, yet being asked, what he thought of attending them, he replied with a considerable degree of address, “For it there are great examples, and against it strong arguments.”

Of his talents as a speaker Bosselet exhibited a specimen that was much admired, at the early age of 16; and as to his style of preaching, it was lofty, free, animated, and energetic. As he possessed a retentive memory, he seldom wrote down more than the heads of his discourses, and supplied the intervals extempore, but as the result of previous meditation. Hence it happens, that his printed sermons are rather bold and masterly sketches than finished compositions; and however much they have been admired, they are far excelled by the discourses of Maffillon and Boulainvilliers.

But his funeral orations are considered as surpassing all others with respect to sublimity and pathos. Of the seven which he delivered and published, the three that have claimed pre-eminence are those for the queen of England, widow of Charles I., in which is introduced a fine delineation of Cromwell’s character and politics; for the duchess of Orleans, sister to Charles II.; and for the famous prince of Condé.

In the exercise of his episcopal and pastoral functions Bosselet was entitled to great respect and commendation. He was eminently distinguished by his attention to the duties of his office; by his diligence in communicating instruction to the ignorant, and comfort to the afflicted; and by the exercise of an exemplary hospitality to the indigent. In his clerical visits he paid particular attention even to peacocks and children. Whilst he was thus amably employed, he closed a prudent and dignified life, in the year 1704. It ought to be recorded to his honour, that, though he was a zealous advocate for the doctrines of the church of Rome, he was no friend to perfecution, and expressed his disapproval of the severity exercised toward the Huguenots. Nevertheless, it does not appear that he ever reprehended the king the injustice, cruelty, and impolicy of this conduct.

“The behaviour and manners of Bosselet always com-manded respect, but they often betrayed thoughtfulness, a domineering disposition, and a high opinion of himself; and showed he had but little of that spirit of meekness and gentleness, which in the archbishop of Cambrai was joined to every virtue that inspires veneration. The difference of their characters is easily discerned in their writings. In those of Bos-}

fouling; in those of Fenelon, he feels the peremptory power arising from the union of a fine genius with genuine benevo-

lence. Accordingly, the former has been said to have dem-ontrated the truth, and the latter to have exhibited the amiability of religion.”

Of the works of Bosselet a collection was made in 1743, in 12 vols. 4to., to which was added, a supplement of 5 vols. 4to.; and the Beneficiates of St. Maur have published 12 vols. of a new and improved edition. He also wrote in Latin a defence of the declaration of the French clergy on ecclesiastical power. Bosselet was a distinguished member of the French academy, into which he was admitted in 1671. Elige Academica par d’Alembert. Nov. Dict. Hist. Morci. Gen. Bisi.

BOSTON, or Best, in Geography, a town of Persia, in the province of Segistan, or Selitan, seated on the banks of the river Hezemund, or Hindmund; distant about 75 miles S.W. from Candaian. N. lat. 32° 30’. E. long. 64° 25’. From this town Abdulfath Ali Ben Mohammed at Katch, one of the most illustrious poets who flourished under the dynasty of the Samanides, derived the appellation of Al Bifot. Herbelot.

BOSTAN, a town of Asiatic Turkey, in the province of Room, seated in a fertile plain of the same name, watered by the river formerly called “Sarvis,” and sur-

rounded with mountains, on the northern side of Mount Taurus. The town is small; and its inhabitants prefer a thriving contral to the more polished natives of Syria. Their common dress is a short jacket and a fringed turban. The women, whose complexion is fair and florid, wear on their heads flat pieces of metal, some of silver, and others of copper, according to their rank, which they tie under the chin, and thus shelter their faces from the sun and rain. N. lat. 38° 12’. E. long. 36° 28’.

BOSTANGI-BASCHI, or Bofange Baschi, in the Turkish Affairs, an officer in the grand seignior’s household, who has the superintendence of all the gardens, water-works, and houses of pleasure, with the workmen employed in them. The pool of bostangi-baschi, or chief gardener, is one of the most considerate in the Turkish court; and his power is very extensive. He has the emperor’s car, and on that account is much courted by all who have business depending at the Porte; he is governor of all the villages on the channel of the Black sea, and has the command of above ten thousand bostangis, or gardeners, in the seraglio, and other places about Constantinople. His reprefles debauchery, and punishes theft and other offences. But that which gives him the greatest excel- lence is the honour he has of holding the rudder whenever the grand seignior takes his pleasure on the water, and of accompanying him every where on horseback, whenever he goes out in state. This officer is of the number of the four “Ricab acgleri,” or officers of the court, who are obliged to attend the sultan on all solemn occasions; the other three are called “Buyun-imborphori,” or great equerry; “Kurchuimborphori,” or little equerry, and “Capidjar-kiyafa,” or great chamberlain. The bostangies are generally sons of Musulmans; their pay is tolerably good, and they are al-most all married. They were established under the reign of the first emperors, and for a long time furnished a nursery of the bell followers. Thos. of them who displayed the greatest courage and strength, and more especially the highest degree of fanaticism, were transferred to the janizaries.

BOSTON, in Geography, is a large commercial borough-
town of Lincolnshire, in England. It stands in that division of the county called Holland, and is nearly surrounded by the fens; the greater part of which having been inclosed and drained, is now appropriated to arable and meadow
lands. Previous to this great national undertaking, Bolton had but few of its population and trade; but this event has changed the town. It stands on the bank of the river Witham, which empties itself into the sea about five miles out of the town. Here is a commercial and well-frequented harbor; and formerly a great trade was carried on in the expectation of wool; but being prohibited, the merchants were compelled to seek profit in other commodities, and have nearly kept pace in the characteristic commercial spirit of the country. By advancing the population, opulence, and trade of Bolton, it is now one of the most considerable towns and ports in the county of Lincoln; and, besides two weekly markets, has four annual fairs.

Bolton, according to Bede, was anciently called Botolph's town, from St. Botolph, a Saxon, who founded a monastery here, which, according to the same venerable writer, gave origin to the town. Other writers state that the Romans had a station here, and in support of this opinion refer to some ancient foundations of buildings, seven stones, and urns, that were discovered here in 1716. This town sent representatives to three national councils, 11th, 26th, and 27th of Edw. III, and first returned regular members in Edw. VI.',s time. It was incorporated in the last year of Henry VIII.'s reign. The number of voters amounts to nearly 200. About the end of Henry I.'s reign, a man, named Robert Chamberlain, with some accomplices, disguised in the habits of monks, set the town on fire in several places, for the purpose of plundering the inhabitants. Chamberlain was taken, and executed, but refused to impeach his accomplices.

The corporation, by whom the town is governed, consists of a mayor, who is chief clerk of the market, and admiral of the coast; a recorder, twelve aldermen, eighteen common-councilmen, a judge, and marshal of the admiralty, a coroner, two serjeants at mace, and other inferior officers.

The river Witham is navigable at spring-tides for vessels of ten to eleven feet water; and many of them are employed in the corn-trade to London. A communication is opened between this place and Lincoln, by means of a canal; and another cut communicates to Sleaford, Horncastle, &c.

Bolton had formerly, besides St. Botolph's monastery, a priory, four friaries, and three colleges. It had also two churches; but that of St. John's is entirely destroyed. The other, dedicated to St. Botolph, is a large, elegant pile of building, with a lofty tower, which is justly admired for the lightness, neatness, and beauty of its various compartments. In the year 1509, was laid the foundation of this structure, which has since proved the pride and boast of the Boltonians. It is 300 feet in height, and is said to be the loftiest tower in England. From its top is a most extensive view over the flat lands of Lincolnshire. The whole height is divided into four compartments, of which the uppermost is formed into an octagon-shaped lantern, each side perforated with pointed arched windows, and filled with mullions and tracery. This is attached to the square tower by flying buttresses, terminated by purled pinnacles. The three other compartments are ornamented with highly decorative windows and tracery; and at each corner are two strong ornamented buttresses. The church, though more ancient than the tower, displays a fine example of English florid ecclesiastical architecture. Large in dimension, lofty and light in its general character, and richly elegant in the various decorative ornaments of windows, oratories, door-ways, &c., it will be examined with delight by the Architectural antiquary. It consists of a nave, chancel, side aisles, south porch, chapels, &c.; and is one hundred feet in width, by three hundred feet in length. In the upper part of the nave are twenty-eight pointed windows, between which are fourteen groined arches, with light spandrils curiously moulded. These, with their interlacing and embossments, produce a very beautiful effect, which is improved by the lofty columns and arches that divide the centre from the side aisles.

The general appearance and convenience of Bolton have been much improved within the last twenty years. Many obstructions have been removed, and new buildings erected. The market-place is spacious, and is ornamented with a handsome flower-croft. In 1773, the corporation built an excellent fish-market, which is abundantly supplied with sea and river fish. Queen Elizabeth gave the corporation a court of admiralty over all the adjacent sea-coast. Vessels arrive here from Stanton's wharf, London, every ten days; and from Hull and Lynn, every spring tide. Several foreign ships trade here in summer with timber, wine, &c. Bolton is 75 miles east of Lincoln, and 166 miles N.E. of London. It contains 1,252 houses, and 5,926 inhabitants.


Boston, the capital of the slate of Massachusett's, in America, the largest town of New England, and the third in size and rank in the United States, lies in N, lat. 42° 24' 15" N. and W. long. 70° 58' 59". This town, together with the towns of Hingham, Chelsea, and Hull, constitutes the county of Suffolk; and it is distant 5 miles S. by W. from Portmouth, 164 N. E. from New Haven, 252 N. E. from New York, 337 N. E. from Philadelphia, and 500 N. E. from the city of Washington. It is built upon a peninsula of irregular form, at the bottom of Massachusetts's bay, and is joined to the land by an isthmus at the southern end of the town leading to Roxbury. Its length, including the neck, is 3 miles; that of the town itself is not quite 2 miles; its widest part, 726 yards. The peninsula contains about 700 acres (some say 1,020), in which are 2,376 dwelling-houses. The number of inhabitants, in 1790, was 18,038; but it has since been much augmented. The town is intersected by 97 streets, 36 lanes, and 26 alleys, besides 18 courts, &c., many of which are irregular and incommodeous. Street-restaurant is very spacious, and extending in a line with Long wharf, where strangers usually land, exhibits a flattering idea of the town. Boston contains 19 edifices for public worship; 9 for congregationists, 3 for episcopalians, and 2 for baptists. The Friends, Roman catholics, Methodists, Sandemansians, and Universalists, have also one appropriated to each. Most of them are ornamented with beautiful spires, and furnished with clocks and bells. The other public buildings are the state-house, court-house, two theatres, concert-hall, Faneuil hall, gaol, almshouse, workhouse, bridewell, and powder magazine. Franklin place, adjoining Federal street theatre, contains a monument of Dr. Franklin, and is reckoned a great ornament to the town. A magnificent state-house is also erected on the south side of Beacon-hill, fronting the mall, and overtopping the monument on Beacon-hill. The market-place, in which Faneuil hall is situated, is plentifully supplied with all kinds of provisions, both from the country, and from the ocean, and rivers.

The harbour of Boston is formed by point Alderton on the south, and by Nahant point on the north. It is sufficiently capacious to admit 500 vessels to ride at anchor in good depth of water; but the entrance is so narrow, as hardly to allow two ships to pass abreast. It is diversified with about 60 islands, the greatest number of which consist of rocks and banks of sand, slightly covered with verdure; but about 15 of them afford excellent pellmellon, hay, grain, and agreeable places of retreat in summer to parties of pleasure. At the distance of about three miles from the town is Castle Island, the fortifications of which, formerly called Castle William,
William, defend the entrance of the harbour, and are garnished by about 50 soldiers, who guard the convicts, sent hither for hard labour, and chiefly employed in making nails. The light-house stands on a small island at the north entrance of the channel (point Alderton and Nantucket heights being on the south), and is about 63 feet high. In fleeing for it from Cape Cod, the course is W.N.W. when within one league of the cape; the distance from Cape Cod to the lighthouse is about 16 leagues; and from Cape Ann the course is S.W. distant ten leagues. A cannon is lodged and mounted at the lighthouse, to answer signals. Of the islands then only are within the jurisdiction of the town, and taxed with it; viz. Nodlee's, Hog, Long, Deer, Spectacle, Governor's, and Apple islands. The wharfs and quays in Boston are about 80 in number, and very convenient for vessels. Long wharf, or Boston pier, extends from the bottom of State-street 1743 feet in a straight line into the harbour; its breadth is 104 feet, and at the end of it are 17 feet of water at ebbe-tide. Adjoining to this wharf on the north, is a convenient wharf, called from its former proprietor, and its form, Minor's T. Here vessels are supplied with fresh water from a well surrounded by salt water, and dug at a great expense. On the north side Long wharf is covered with large and commodious stores; and a canal has been cut, in order to connect this harbour with Roxbury.

In approaching Boston from the sea, it presents a beautiful and picturesque object. It lies in a circular but irregular form round the harbour, and is ornamented with spires, above which the monument of Biscoe-hill is prominent, bearing on its top a gilt eagle, with the arms of the Union; and on its sides, a variety of inscriptions commemorating some of the most remarkable events in the late war. Beech hill is the highest point of land on the peninsula; the common below it contains about 47 acres, refreshed by perpetual breezes; and on its calf side is the Mall, a pleasant walk, about 600 yards long, adorned with rows of trees. Charles river, and Mill River, with, and the latter, join the sea at Boston, and both are entered on Charles river, which mingle its waters with those of Myllic river in Boston harbour. Charles river bridge connects Boston with Charlestown, in Middlesex county, and is 75 piers, and is 1,503 feet long and 42 feet broad. Boston bridge stands on 180 piers, and is 2,918 feet long, and 40 feet wide. Both bridges have for the admission of vessels, and lamps for the benefit of evening passengers. Boston has seven free schools, supported at the public expense, in which the children of all citizens are freely admitted; and besides these, many private schools.

The principal societies in the commonwealth hold their meetings in these town; these are the Marine Society, American Academy of Arts and Sciences, Massachusetts Agricultural Society, Massachusetts Charitable Society, Boston Episcopal Charitable Society, Massachusetts Historical Society, Society for propagating the gospel, Massachusetts Congregational Society, Medical Society, Humane Society, Boston Library Society, Boston Mechanic Association, Society for the Aid of Emigrants, Charitable Fire Society, and seven respectable lodges of free and accepted masons.

For the support of the foreign and domestic trade of Boston, which is very considerable, there are three banks; viz. the branch of the United States Bank, the Union, and the Massachusetts's bank; the latter confides of 800 shares of 500 dollars, equal to 400,000; the capital of the Union bank is 1,200,000 dollars, 450,000 of which is the property of the state. The principal manufactures of Boston consist of rum, loaf-sugar, beer, fall-cloth, cordage, wool and cotton cards, playing cards, pot and pearl-shells, paper-hangings, hats, plate, glass, tobacco, and chocolate. It has 30 distilleries, 2 breweries, 8 sugar-houses, and 11 rope-walks. The number of the different flags that run, through the week, from this town, is upwards of 20; and on the great road between Boston and New Haven, there are constantly employed 200 carriages and 100 horses.

For the government of Boston nine select men are annually chosen; and at the same time are chosen a town-clerk, a treasurer, twelve overseers of the poor, twenty-four firewards, twelve clerks of the market, twelve scavengers, twelve constables, and a number of other officers. Besides those called "trunk bands," there are four other military companies in Boston; viz. the ancient and honourable artillery company, the cutters, fitters, and artillerists.

The settlement of Boston took place as early as the year 1631 from Charlestown. It was called by the Indians Shawmut, and by the settlers from Charlestown Trinimountain, from the view of its three hills; and it derived its present name from respect to the Rev. Mr. Cotton, a minister of Boston, in England, and afterwards minister of the first church in this place. In 1727, it was much damaged by an earthquake, and has since frequently suffered severely by fires, its houses having been mostly built of wood. The revolution, whence America dates its independence, commenced at Boston. Morfe.

**Boston Corner.** A tract of land adjoining mount Washington, in Berkshire county, and state of Massachusetts, containing 67 inhabitants.

**Boston, New.** A township of Hillsborough county, New Hampshire, containing 1202 inhabitants; 12 miles S.W. by W. from Amuckeag falls, 60 miles W. of Portland, and equally distant N.W. from Boston.

**BOSTRA, Bosra, Bosrah, in Ancient Geography.** One of the principal towns of Arabia, and the capital of a canton or province called "Auranite." It was the capital of the early Idumea, and the royal residence of Joba, the son of Zerah, duke of Edom; and in scripture history, it is commonly mentioned as situate in a wilderness, because it stood on the confines of Arabia Deserta. It was, however, in those times to which the ancient biblical history refers, a considerable place; having been made a Levitical city by Joseph, and a city of refuge. It is likewise celebrated by ancient writers and medals; and several of its bishops, at a later period, afflicted at some of the ancient councils. It was distant four days' journey from Damasfeus, had a very strong castle, a gate 20 cubits high, and one of the largest basons or reservoirs in the Levant. It was captured by Alexander the Great after the battle of Issus, and he seems to have been much attached to it; but after his death it became subject to the Selucidian kings of Syria, until the time of Antiochus Dionysius, when it was conquered by an Arabian prince. Under the reign of Trajan, it was subjected to the dominion of the Romans. At this time it was comprehended in a province of Arabia; and Trajan adorned it with many magnificent edifices, established it as a new city, and gave the inhabitants permission to denominate it "Trajana." The emperor Septimius Severus enlarged this city, whence some have regarded him as its founder. This prince, or his immediate successors, conferred upon it the names and honours of a metropolis. Under the reign of Alexander Severus, it was considered as a place of importance, on account of its situation on the frontiers of the empire; and it was thought worthy of receiving a Roman colony. In honour of Alexander Severus, it assumed the name of "Alexandriana." The two principal divinities worshipped at Botra were Bacebus and Urania. Bacebus Dionysius was, according to Diodorus Siculus, the Oliris of
the Egyptians; and this deity was denominated "Dufares" by the Nabatean Arabs in the vicinity of Bostra. According-ly, the inhabitants of this city engraved a figure of their god Dufares on their medals at Bostra. There was also a temple of the goddess Urania, which was engraved on a medal of Septimius Severus, and also on one of the emperors Mammanes. The worship of Jupiter Ammon, and of Serapis, was also admitted into Bostra, and they received from the Greeks that of Jupiter Helius or Amicus. The citizens of Bostra regarded Urania as the tutelary deity of their city. The Dacarian genres, which were first discovered on medals under the reign of the emperor Philip, were celebrated at Bostra, in honor of Dufares, the Bactrius of the Arabians. When Arabia was divided, after the conquest of it by Trajan, Bostra was appointed the metropolis of that part which retained the name of Arabia; and its bishop afterwards became the metropolitan of the ecclesiastical province. See Bostra. — Another town of the same name, but less celebrated, is mentioned among the Moabite cities, in Jer. ch. xlviii. v. 24.

BosTrychites Lapis, derived from βοστρυχίτης, I fold the hair in braids, in Natural History, a name given by some to a flake supposed to contain women's hair included in it: some have understood by it, those pieces of crystal which have accidental fonnelles in them, resembling hair, or pieces of hair, caused by earthy or metallic matter; others call by this name those German agates, which contain either the conserve or other capillary water plants, or other fonnelles running into their form; the firdt of these very frequently have the conserve of great length, and variably undulated and turned about, so as very elegantly to represent a loosely flowing lock of hair.

BosTrychites is also a name given by some authors to a species of pyrites, whose raiations were supposed to imitate hair.

BosTRICHUS, in Entomology, a genus of Coleopte-
rous insects distinguished by having the antennae caved; the club solid; thorax convex, with a flight margin; head inflected, and concealed under the thorax. Gmel. Fabr. &c. The species of this genus are capucinus, flavicornis, elonga-
tus, typographus, chalcographus, polygraphus, microgra-
phus, bidentatus, scolytus, creatus, pygmaeus, ligniperda, piniperda, tectacera, varius, vitatus, minutus, maculatus, bifacians, limbatus, fulces, and pilonos; which see.

BosULS, in Geography, a town of France, in the de-
partment of the Aervon; 34 leagues N. E. of Rhodes.

BosWELL, James, in Biography, son of Alexander Boswell, lord Auchinleck, one of the judges in the supreme court of sefion, and judicatiy in Scotland, was born at Edin-
burgh, Oct. 29, 1743, and received the first rudiments of edication in that city. He afterwards studied civil law in the universities of Edinburgh and Glasgow; and during his residence in these cities, he formed an intimate acquaintance with some English students, which produced a predilection for their manners, that contributed in a great degree to his future habits and attachments. Ambitious, in early life, of distinguishing himself by his literary talents, he was so for-
tunate as to obtain the patronage of the late lord Somerville, of which he always retained a grateful remembrance. In 1765, he visited London, to which he became much attached, and where he fixed his principal residence. Here he enjoyed the advantage of cultivating an acquaintance with several persons of literary character, to whom he recommended himself by his attention, and by the urantry of his manners. Although his father had intended him for the profession of the law, his own inclination led him to wish for a commision in the army; but he gave up this object in deference to lord Anchinleck's persuasion, and at his desire returned to Scotiaand; and renewing his attention to the law, pursued a course of regular instruction, and passed his trials as a civilian at Edinburgh. In compliance with his father's wishes, he attended the lectures of an excellent civilian at Utrecht, in the winter of 1762; and afterwards obtained permission to make his grand tour of Europe. During his winter's refi-
dence at Utrecht, he visited several parts of the Nether-lands, and then commencing his projected travels, he passed from Utrecht to Germany, and pursued his route through Switz-erland to Geneva; from hence he crossed the Alps into Italy, paying his respects in the course of his journey to Voltaire at Ferney, and to Rossfian in the wilds of Neuf-
chatel. In Italy, he associated with Lord Mountfiault, to whom he afterwards dedicated his "Thesias Juridicae." From Italy he failed to Corfica, and, traversing the island, he obtained the friendship of Pafcal de Pauli, in whose palace he resided during his stay. From Corfica he went to Paris; and returning to Scotland in 1766, he soon after became an advocate at the bar in that country. In the famous Douglas caufe, which was at that time a subject of dis-
cussion, he published a pamphlet entitled "The Efficiency of the Douglas Caufe," which contributed to his popularity. In 1768, he appeared with his "Account of Corfica, with memoirs of general Pauli," which was highly spoken of by Dr. Johnfon, and translated into the German, Dutch, Italian, and French languages. His prologue, written in the winter of this year, on occasion of opening the theatre royal at Edinburgh by David Roft, esq. was flattering to the author, and beneficial to the manager, as it secured to the latter the uninterrupted possession of his patent till his death in Sept.

1792. In the celebration of the Shakfpeare jubilee at Stratford upon Avon, in 1769, Mr. Boswell took a conspicuous part, appearing at the masquerade exhibited on that occasion, under the character of an armed Corfican chief. In 1783, he published his letter to the people of Scotland, which, according to the opinion given of it by Dr. Johnfon, in a letter to the author, "contains very considerable knowlledge of history and the constitution, very properly produced and applied." As this letter was sanctioned by the approba-
tion of Mr. Pitt, it was soon followed by another, in which Mr. Boswell displayed his usual energy and political talents. In 1785, he published "A Journal of his Tour to the Hebrides," with Dr. Johnfon; and in the same year he removed to London, where he was called to the English bar. But his profession seems to have been the object of his attention than the "Life of Dr. Johnfon," for which he had been collecting materials from the commencement of his acquaintance with him in the year 1765, to the time of his death, and which was published in 2 vols. 4to. in 1791. Few persons can be supposed to be better qualified for this undertaking than Mr. Boswell; for he had known, and he had familiarly, and almost daily, conversed with Dr. Johnfon for more than twenty of the last years of his life; during which, he was happy in the kind regard and unrestrained confidence of his venerable friend, who, as we are informed by Mr. B. himself, was fully apprized of his biographical intention, and manifested no disapprobation of it. Of this work, which at first became very popular, it will be sufficient to observe, that it exhibits a faithful history of Johnfon's life, exemplified in a variety of anecdotes, that rendered it equally in-
structive and entertaining. The last literary performance of Mr. Boswell was the preparation of a second edition of this work. Mr. Boswell combined, with considerable intellectual powers, a gay and active disposition; and he often experienced an unaccountable depression of spirits. In one of his gloomy intervals he composed a series of essays under the title
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title of the "Hypochondriæ," which appeared in a periodical publication about the year 1705, and which he once thought of collecting into a volume. Soon after his return from a visit to Auchinleck, he was seized with a disorder which put an end to his life, in Portland Street, June 19th, 1795, in the 57th year of his age. At the close of his journal of the tour to the Hebrides, after having given a sketch of his own character, he introduces, not indeed without an apology, the encomium of Dr. Johnson, whose friendly partiality to the companion of his tour represents him as one "whose acuteness would help my inquiry, and whose gaiety of conversation and civility of manners are sufficient to counteract the inconveniences of travel in countries less hospitable than we have passed." He left his wife, to whom he was married in 1769, in the year 1795, and she left him two sons and three daughters. She was a lady, who to the advantages of a polite education united a superior understanding; and on occasion of her death he honoured her memory with an affectionate tribute. Dig. Dict.

BOSWORTH, Market, in Topography, a town in Leicestershire, England; situated on a hill, and celebrated in history as the nearest place of note to the scene of battle between Richard III. and Henry earl of Richmond. The manor anciently belonged to the earls of Leicester, and by a partition came to Saer de Quincy, earl of Winchester, who, in the reign of King John, gave it to Richard de Harcourt, of Stanton Harcourt, in Oxfordshire, whose descendant Richard Harcourt, when lord of the town, obtained from Edward I. the privileges of a market (Wednesday) and a fair. The manor continued in this family till Henry VIII. 's reign, when it came to the marquis of Dorset; and from him, by the earl of Huntingdon, to Sir William Deyce knight, whose heirs are, or lately were, owners of it. Bosworth is 106 miles N.W. from London, and contains 120 houses and 751 inhabitants. The church is large, contains some ancient arms and monuments, and has a beautiful spire; it had five chapels belonging to it. There is a free-school, for which Anthony Blackwell, a learned divine, was master, and Samuel Johnson (afterwards LL.D.) so celebrated in the literary world) his usher. Thomas Simpson, the mathematician, was born here in 1710, who, from indigent circumstances, and the business of stuff-weaving, acquired so deep a knowledge of mathematics, as to rank him with the most scient men of the age, and to raise him to the professorship at Woolwich, and F.R.S. He died at Bosworth, 1761. See Simpson. Nichols' History of Leicestershire, see Market Bosworth, et seq.

Bosworth, Battle of, in History. This battle, on which the kingdom of England depended, and which terminated the civil war between the houses of York and Lancaster, was fought August 22, 1485, on a large flat plain, called Radmore plain, 3 miles from Bosworth, and 4 miles from Hinckley, between Henry earl of Richmond at the head of 6000 men, and king Richard III. with an army above double that number: about 100 of the former were slain, and about 4000 of the latter. The battle, which lasted little more than two hours, was decided by the death of Richard, as his followers then fought with such spirit of flight, and left Richmond master of the field and kingdom. Richard fought with singular intrepidity; his body, being found among the slain, was ignominiously thrown across a horse, and carried to Leicester, where it was interred in the Grey Friars church. Many relics of this battle have at various times been found by digging and ploughing in the field. These were spurs, rings, armour, crooks, bows, arrow-heads, &c. King Richard's dagger, and Crown hill, where Richmond harangued his army, preserve the identity of the place. Henry's Hist. of England.

BOTABA, in Geography, the name of one of the Louisiana, or Marian islands.

BOTADOTA, in Ornithology, a name given by some writers to that species of foa or swallow (hirundo eudentes), whose nests are so famous for lumps in China, and in some of the islands in the Indian ocean. See Scissurae Hirdno. The nests are supposed to be retorative, and greatly provoking to venery, and which last quality it is that the eastern nations in general are so fond of them. See Bird's Nests.

BOTANIST, in Middle Age Writers, a fee paid for wine sold in bote, or butt.

Wine that taffes of the calf is called vinum botatum.

BOTALE FORAMEN, in Anatomy, an aperture in the heart of a fucus, whereby the blood is enabled to circulate, without going into the lungs, or the left ventricle of the heart. See Fistula, Circulation, and Heart.

BOTALLUS, Leonard, in Biography, an eminent physician of Piedmont, flourished about the middle of the 16th century. He was a disciple of Galenopis, and took his degree of doctor in medicine at Padua. It appears by his writings, that he made the profitable experience of practice. That he was in great estimation, appears by his having been made in succession physician and aulic counsellor to Charles IX. Henry II. of France, and to William prince of Orange. He was also skilled in the practice of surgery, having been instructed under his brother in the camp of the prince of Orange, whom he cured of a wound, in which the cartilage of the arm was injured. His works are: "De curandis vulneribus felopotorum," 1560, Venet. This has been frequently reprinted, and continued, for a long time, to be esteemed the most useful manual that had been published on the subject. "Commentarius duo, alter de medeci, alter de regali, munere," 1665, Lyon, 8vo.; in this he lays down rules for the conduct of the physician, the surgeon, and the apothecary, in their attendance upon the sick. But the work by which he is most known, and which produced an important revolution in the practice of medicine, is his "De curandis vulneribus folopotorum," antd. 1583, 8vo. Though bleeding had always been occasionally used in the cure of diseases, yet in his time it was nearly constantly superseded by purging medicines, or it was too sparingly used, and seldom repeated. Our author made frequent recourse to it, with complete success, he says, in diarrhœa, dysentery, in fever, the plague, and during pregnancy, in which cases it was nearly prohibited. Flatter'd with the success with which his practice was attended, he became, as he advanced in life, more and more bold and free in the use of the lancet, and has left records of cases, in which he bled his patients ten times, or oftener. He even recommends bleeding in quartan fevers, and in dropsy. The reputation the author acquired, soon procured him profecytes; and bleeding became a general remedy all over Europe; but in no country was it carried to such excesses as in France, where the profefors of medicine, for their too frequent recurrence to it, were held up to ridicule by Le Sage, in his imitable novel of Gil Blas. The mania has at length subsided; and bleeding is now considered by them as a valuable, but not as an universal remedy. The works of Botallus were collected, and published under the title of "Opera Omnia," in 1662, at Leyden, by J. V. Horne, Haller, Bib. Med. Præct. et Chirurg. Elyó, Bib. Hist.

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BOTANIST, a person who understands the nature, history, and diffusion of vegetables, onitted and certain principles, and can draw every plant by a distinct, proper, and intelligible name. Linnæus Fundam. Botan. p. 1. See Botany.

BOTANOMANCY. formed of Botan and mancy, a species of ancient divination by means of plants, particularly face and fig-leaves. The persons who recurred to it, wrote their own name and their questions on leaves, which they exposed in the wind; and as many of the letters as remained in their own places, were taken up, and being joined together, contained the required answer.

BOTANOPHIL, among the writers on the subject of vegetables, those who have treated of them, not as botanists, or their natural and established distinctions, but in regard to different operations, as gardeners, physicians, &c.

BOTANY, is that branch of natural history which relates to what is usually called the vegetable kingdom, the second of the three grand subdivisions into which all terrestrial objects are divided. Its name, Botan, is the Greek word for grass, and is derived from the verb, Botan, which signifies to feed; because grass is the chief food of those animals which are most useful to man. By a process not understood in language, its meaning has been extended to the whole vegetable creation; and, by a familiar figure of speech, it is now employed to denote the natural history of plants.

Botany, as a science, is not confined to the description and classification of plants, as ignorance has often been pleased to represent it, but comprehends many other important particulars. Its various objects may be conveniently arranged under the following heads.

1. The terminology, or description and nomenclature of the several parts of a plant which are externally visible.

If all natural objects were simple in their form, it would not be easy to distinguish one from another; nor would it be possible to describe them, so as to give a clear and precise idea of them. Hence a boundless variety, connected with general resemblances, is widely and benevolently made their universal character. Every plant is composed of several parts, which differ from each other in their outward appearance, and which cannot fail to strike the most careless spectator. Many of them also are themselves compound, and are obviously capable of being divided into subordinate parts.

The first grand division, adopted by most botanists, is into the root; the body of the plant; and the fruitification. The last, or something equivalent to it, is essential to all plants; the first is visible in almost all; and the second is wanting in many.

The root is flatted by Linnæus to consist of the radicles, and the descending caudex. The radicle is that fibrous part which draws nourishment from the earth, and in many plants constitutes the whole of the root. The descending caudex is properly part of the flock, or body of the plant, which extends itself below the surface of the ground, as the ascending caudex rises above it. That the ascending and descending caudex have precisely the same nature is evident from the well-known fact, that if a young tree be infested, what was before the root will produce leaves, while the former item throws out radicles.

Roots are divided, according to the term of their duration, into annual, biennial, and perennial. The annual and biennial produce flowers and fruits only once, and then soon die; the former passing through all the stages of vegetable life in one season; the latter throwing out root leaves the first year, but not completing the fruitification till the next. The perennial root has within itself a principle of continued life, and gives being to new flowers and seeds, year after year, to an indefinite length of time. Of the roots that are called perennial, some are truly, others imperfectly such. In the true perennial root, the descending caudex and the radicle preserve the same individual organization, and increase in size as long as the plant continues to flourish. The imper-
successive generation. These individuals are not, indeed, exactly like each other in every minute respect; such a perfect conformity does not exist in any two individuals, either of animate or inanimate organized nature. But the difference between those of the same species, though sufficiently discernible by the eye, cannot easily be expressed in words. With a strongly marked resemblance in all their parts, there is a perpetual variation in their outline, and other particulars; so that no two individuals, lying one upon the other, will entirely correspond. They are formed after the same model, not cast in the same mould. In the general, an accurate description of all the parts belonging to any individual, will differentiate the whole species. There are, however, some sensible qualities of importance enough to be distinguished by proper names, which are, in many cases, too uncertain to enter into a specific character. Of these, size, colour, smoothness, or hairiness of surface, and luxuriance of one part at the expense of another, are the chief; and they are owing either to difference of soil, climate, particular exposure, and other accidents; or, to artificial cultivation, the most abundant source of perpetual varieties.

A genus is an assemblage of species, connected with each other by one or more common characters, but still preserving their specific distinctions.

An order is a similar assemblage of genera.

A class bears the same relation to its orders; and as it stands at the top of the series, it forms the most general and most widely diffused resemblances, and comprehends the greatest number of particular differences.

A natural arrangement of the species, genera, orders, and classes, size, in every instance, from heterogeneous combinations, and disturbing no real affinities, is the ne plus ultra of classification. It is a consummation devoutly to be wished; it is the point of perfection which every naturalist should labour to approach, though what no one can expect actually to reach. To have formed the idea is no small advance in the progress towards it, and implies a very considerable acquisition of knowledge.

Most of the systems which have hitherto been proposed, are professedly artificial; that is, founded on a few parts of a plant, with little or no regard to the rest. The calyx, the corolla, the sexual parts of the reproduction, and the mature fruit, have, each in their turn, been selected for this purpose by different systematic writers. A slight sketch of some of the principal systems will be found below in the history of botany, and a fuller explanation will be given, with critical remarks, under the article Classification. But, as the system of Linnaeus is that which has been adopted in this work, we shall now briefly illustrate its general principles.

In this system, the reproduction has been justly considered of the first consequence. The characters of the classes, orders, and genera, are accordingly taken entirely from it.

In the greater number of plants, the parts of reproduction may be distinctly discerned by the naked eye, or with the aid of a common lens; but there are also not a few in which they have not been satisfactorily discovered, or are too minute to be described with sufficient accuracy, for the purpose of systematic arrangement.

In most of those whole parts of reproduction have been clearly ascertained and distinctly described, the filaments and pistils are included within the same envelope; or, at least, are absolutely contiguous; but, in some, they are contained in separate flowers, or placed at a distance from each other. In both cases, there is much variety with respect to their number, position, and other circumstances.

On these distinctions the distribution into classes and orders is founded. The characters of the classes are taken exclu-
The twenty-fourth and last class comprehends all the plants which have inconspicuous flowers, and of which the fructification is consequently, in a great measure, unknown. It derives its name from κρυπτός, private, and γάμος, marriage.


The principles on which the classes are formed in the sexual system, will be distinctly seen in the following synoptic table:

SYNOPTIC TABLE OF THE LINNÆAN CLASSES.

|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|

After these twenty-four classes, the palms are placed in the way of appendix, because their fructification has not hitherto been sufficiently described.

By attending to these few simple and easy characters, the botanical student may readily find out under what class he is to look for any unknown plant, the name of which he is desirous to learn. He is next to inquire to which order of the classes it belongs.

The orders of the first thirteen classes are founded entirely on the number of the pistils; and are called monogynia, digynia, trigynia, &c. from γυνή, female, or wife, compounded, as in the names of the classes, with the Greek numerals. The

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flyles are to be counted from the base, and not from the upper part, which is often divided into two or more segments, without destroying the monotypous character of the flower. When the flyles are wanting, the number of stigmas determines the order.

In the classes didynamia and tetradynamia, none of the genera have more than one flyle; the characters of the orders are, therefore, taken from the pericarp. The clas didynamia has two orders; the first is distinguished by its naked seeds, inclufed, till ripe, in the permanent calyx instead of a pericarp. Its name, gymnosperma, is derived from γυμνός, naked, and σπέρμα, seed.

The second has its seeds in a pericarp, and is called angiosperma, from αέγγις, a vessel, and σπέρμα, seed.

The clas tetradynamia has also two orders, distinguished by the form of the pericarp; the first called siliculosa, from silicula, a little pod; the second, siliquosa, from siliqua, a pod. See Silicula, and Siliqua.

In the clas monadelphus, diadelphus, and polypelphus, the orders are denominated from the number of the flaments, triandria, pentandria, &c.

In the clas syngenesia, the orders are more complex.

They are fixed in number; the first five are distinguished by the epithet polygama, intimating that the flaments are compound, and consist of innumerable florets, or little flowers, seated on a common receptacle.

In the first order, polygama equinall, all the florets are equally possessed of flaments and pistils.

In the second, polygama superflius, the florets of the dish, or central part of the compound flower, have both flaments and pistils; those of the ray or circumference have only pistils, but the latter, as well as the former, produce fertile seeds.

In the third, polygama frustranea, the florets of the dish have both flaments and pistils; those of the ray, neither one nor the other, or only abortive pistils.

In the fourth, polygama necessaria, the florets of the ray have efficient flaments, but abortive pistils; those of the ray, fertile pistils impregnated by the flaments of the dish.

In the fifth, each floret has its own calyx, in addition to that which surrounds the common receptacle, and forms the whole into one compound flower.

The sixth differs from the rest in having only simple flowers, referred to this clas on account of the union of their anthers. It has been lately abolished by the general consent of botanists, and the plants formerly included in it have been referred to the clas pentandria.

In the clas monoecea and dioecea, the orders have the same names as the preceding clasfs, and are distinguished by the number of the flaments, or by the union either of the flaments or of the anthers, or by the attachment of the flaments to the pistil.

The orders of the twenty-third clasfs are denominated from the number of houses or plants on which the several kinds of flowers are found.

In the order monoecea, there are some flowers with flaments and pistils, and others that have either only flaments or only pistils on the same plant.

In the order dioecea, they are perfect, and only flaminiferus or perfect, and only pistiliferous flowers on two distinct individuals.

In the order trioecea, the different kinds of flowers are distributed among three distinct individual plants.

The clas cryptogramia is divided into four great families:

1. Filices, or ferns.
2. Mulcfsi, or mosses.

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The colours of plants are divided by Linnaeus into Hyaline, with the transparency either of water or of glass.
White, either cream-coloured or snowy.
Cinerous, either grey, livid, or lead-coloured.
Black, either dark or jet black.
Yellow, either sulphur, flame, or copper-coloured.
Red, either crimson, flesh-coloured, or scarlet.
Purple, more or less approaching to violet.
Green.

It is scarcely necessary to observe, that this enumeration is very imperfect. The different parts of plants have most commonly their appropriate colour. Roots and seeds are frequently black, the pericarp rarely, the corolla scarcely ever. The stem, the leaves, and the calyx are generally green, the corolla very seldom. The filaments and the pistil are often hyaline. The anthers are often yellow, as is also the corolla, especially in autumnal flowers. Vernal corollas and sweet berries are frequently white. Red is common in summer flowers, and labiate berries growing in the shade. Blue is not unfrequent in corollas.

The prismatic colours afford some fixed points of comparison in the description of colours; but there is no similar natural standard for the discrimination of colours and tints. However scanty and obscure the vocabulary of the former may be, that of the latter is, therefore, still more fo. The sense of smelling and the sense of taste have an evident and intimate connection with each other. Herbs and fruits that are grateful to the palate have almost always a pleasant smell; but the reverie does not equally hold; an agreeable perfume does not, in all cases, warrant the expectation of delicious food. Every plant has an odour and a flavour peculiar to itself, and differing from all others in kind as well as in strength. They are discriminated, according to the manner in which they affect the sense, by a few general expressions, which have little or no precise meaning.

Odures are,
Ambrosiac, or musky, as in sweet woodruff (asperula odorata) and musk geranium.
Fragrant, as in jessamine and violet.
Aromatic, as in cinnamon, saffrans, and cloves.
Unpleasantly strong, as in garlic and herb robert (geranium robertianum).

Stinking, as in elder (ebulus) and flanking may-weed (anchemis factida).
Nauseous, or disposing to vomit, as in hellebore, asarabace, and coloquintida.
Sharp, as in mustard.
Pain, as in primrose and lilac.
Tales are,
Sweet, as in sugar-cane and fig.
Acid, as in tamarin and lemon.
Fat, or oily, as in fresh almonds and olives.
Salt, as in saltola, and other maritime plants.
Bitter, as in wormwood.
Astringent, as in the fruit of the quince. This kind of taste is either astring, partaking of a little of the acid, as in unripe fruits, or acid, rough, partaking more of the bitter, as in the common floe.

Viscous, as in the fruit of the common jujube (rhamnus ciziphus). It produces only a slight sensation on the palate.

Acrid, as in garlic. It is sometimes caustic, as in the berrlics of daphne mezereum.
Dry and insipid, as in farinaceous seeds, and several kinds of bark.

Watery, as in cucumber and lettuce.
Naueous, as in tobacco.

Plants affect the touch, as they are feleshy or membranous, soft or harsh, smooth or rough, silky, hairy, or prickly, &c.

V. The anatomy of plants, or description of the different visible parts of which their substance is composed. There are,
1. The epidermis, or thin cuticle which invests the whole of the plant.
2. The cellular, or reticular substance, which appears in the young shoot of a tree after the epidermis is stripped off.
3. The fiber, inner or true bark.
4. The albumen, or biax, improperly called by English dealers in wood, the sap, a ring of imperfect wood between the bier and the true wood.
5. The lignum, or true wood, consisting of concentric firata or rings.
6. The phloem, a sapgy substance included in a longitudinal canal, which constitutes the innermost part of the plant.
7. The medullary produetions, or filaments proceeding from the pith, and enclosing the stem in a radiate direction, as far as the cellular substance.
8. The medullary appendices, filaments placed between the medullary productions, and reaching no farther than the wood.
9. The trachea, or air-vessels.
10. The sylevas, and
11. The vessels which secrete the peculiar juices of the plant.

VI. The physiology of plants.

A plant, like an animal, is a very compound, organized, living being, in which various operations, both chemical and mechanical, are continually going on, from its first production to its final dissolution. It springs from a seed fertilized by the pollen of its parent plant. It takes in foreign substances by its inhaling and absorbing vessels. It elaborates and assimilates to its own substance those parts of them that are nutritious, and throws off the rest. It secretes a variety of fluids by the means of glands, and other unknown organs. It gives that motion to its sap on which the continuance of its life depends. See the article Physiology of Plants, Vegetable, and Vegetation.

VII. The purposes to which different plants are applied, either as articles of food, ingredients in the composition of medicine, or materials and instruments in the useful and elegant arts; the soil and situation in which they are generally found, and which is most favourable to their growth; the time of the year in which they open their flowers, and ripen their fruit, with many other incidental particulars, are properly within the province of the botanist. But, as a botanist, he is concerned with nothing more than the simple facts. The best methods of cultivating such as are raised in considerable quantities for the special use or amusement of man; the theory of their nutritious or medicinal properties; and the manner in which they are to be prepared, so as to effect the intended purposes; are the province either of the farmer, the gardener, the physician, the chemist, or the artist. But as they cannot, in this work, be conveniently introduced under their respective sciences, they will generally be annexed to the botanical details of each particular plant.

VIII. The history of botany.

In all ages of the world, vegetables have been a principal article of human food. We can, therefore, scarcely doubt, that some intimations of the kinds which are most proper for this
this purpose, must have been given to our first parents by immediate revelation from their Creator. Such intimations, however, would be no more than was absolutely necessary, to prevent them from dying by famine, on the one hand, or by the deleterious effects of poisonous plants on the other. They would extend only to a few salutary roots, herbs, and fruits; and agreeably to the general economy of human life, all farther acquisitions in knowledge would be the result of occasional experiments and slow experience. A knowledge of the various species would then gradually increase, and some general distributions would spontaneously offer themselves to notice. A woody trunk would soon be distinguished from an herbaceous stem. A tree and a shrub, an annual and a perennial herb, would not long be confounded with each other. The most striking differences in the form and consistence of the fruit would also be readily observed. Mofes, as appears from the first chapter of Genesis, was acquainted with three characteristic divisions: fruits, of which the seed was probably for some time overlooked or disregarded; herbs, which bear their seed in a dry pericarp or feed veiled; and trees, with all other vegetables, which have their seed inclosed in a pulpy or fome other eatable substance. And it is worthy of remark, that in the grant of vegetables to man for the purpose of food, only the two latter are mentioned; the flint being reserved for "the beasts of the earth, and the fowls of the air, and every thing that creepeth on the earth." Among these a selection would soon be made of such as were most grateful to the palate, and the other leaves. Whatever were the Dudaim which Rachel begged of the fons of Leah, and which our translators have absurdly rendered mandrakes, it is certain, from the song of Solomon, that they were a kind of fruit which gave a pleasant smell. Solomon is celebrated for his knowledge of plants; but all that we know of it, is, that he spake of them from the cedar of Lebanon to the hyssop that groweth on the wall. It could not, moreover, be very long before the early race of mankind began to perceive that some vegetable productions are mildly nutritious, and others actively medicinal. In the frequent search after new viands, which the reliefs curiosity and craving desire of diversified gratification, natural to man, would induce him to make, he would find some that produced violent effects on his bodily frame, and relieved or removed disorders, which are always the "soures of pain, and often the forerunners of death." This would give a new direction to his inquiries, and perhaps prepare the vegetable creation to him in a more interesting point of view. Pain is, in all cafes, so difficult to be borne, that whatever promises to diminish it, is sought for with unwearied affinity.

The knowledge of medicinal plants was, therefore, regarded as a highly valuable attainment many ages before plants themselves were made the subjects of a distinct science. Botany long continued the humble but engaging handmaid of surgery and medicine. The balm of Gilead bore a high price in the estimation of a Jew, because it was strong and rapidly associated with the idea of a physician. In Homer, Patroclus launces the bleeding wound of Euryphylus with the juice of a bitter root, the virtues of which he had learned from Achilles, and Achilles from Chiron. The power of the moly, used as an internal antidote against the incantations of witchcraft, is likewise celebrated by the same poet; and the knowledge of it is said to have been owing to the intervention of a god. That great honour was obtained by an acquaintance with the medical properties of plants, in the heroic ages, is evident from the encomium given to the wife of one of the heroes whom Nestor boasts of having lain in his youth:

"If to the feet of my dear wife we are given life,"

"Who knew the virtues of each earth-born herb."

At a much later period, we shall search in vain for any information concerning the botany of the ancients, except in their medical writers. Hippocrates, the oldest of those of whom we have any remains, and who flourished at the beginning of the Peloponnesian war, of course makes mention of the plants which were then employed in the cure of diseases; but he gives only their names, with their real or supposed fanatical qualities. Aritolotte, who lived about half a century after, and whose comprehensive genius left fearfully anything unexplored, could not overlook so obvious and attractive a pursuit: but the two books now existing which bear his name, are of such inferior merit, that they are generally thought to be forgeries. Theophrastus, the disciple of Aritolotte, is the first professed writer on plants, whose works have incontestibly defended to modern times. He was acquainted with about five hundred, and has left descriptions of them, with light philosophical sketches relating to some of their most prominent dilhinations. But his descriptions are so vague and imperfect, that, in most cases, it is difficult, in many impollible, to determine what plant he intended. And he has made only a rude attempt to divide them into grand families, either by their size and texture, as trees, shrubs, and herbaceous plants, or by the uses to which they were then commonly applied.

From the age of Theophrastus to that of Dioscorides and Pliny, there is an interval of 400 years. Dioscorides was a physician, and wrote entirely as such. He has enumerated about 900 plants; but his account of them is so brief and indeterminate, that, in a botanical view, they are of little value. Nor, in this respect, is Pliny entitled to much greater praise.

During the dark ages which succeeded the downfall of the western empire, almost all the knowledge on this side of the Indus was confined to the courts of the Mahometan caliphs. The Arabian and Moariph physicians cultivated the art of medicine with no inconceivable degree of success, and translated the best Greek writers on the subject into their own language. But in the investigation of plants, they were not much, if at all, superior to their masters. We are, however, indebted to them for the knowledge of fenna, callia filula, manna, tamarinds, rhubarb, and some other medical drugs, which still keep a place in the Materna Medica.

At the revival of literature in the west, the ancients were truly considered as the depositaries of nearly all the knowledge that then existed. It seemed, therefore, as necessary as it was natural, that their writings should, for a time, be exclusively studied. For what steps towards a further progress could be advantageously taken, till what was already done was clearly ascertained? As a general idea, it was a good one; but its application to natural history was unfortunate. For in this branch of knowledge the ancients had done nothing to much purpose. The lovers of botany, however, buoyed up by vain expectations, devoted themselves diligently to the study of Theophrastus, Dioscorides, and Pliny; and much time was idly spent in endeavouring to find, on the west of the Adriatic, all the plants which have been mentioned by those authors. Commentators succeeded commentators; conjecture superseded conjecture; till at length a few intelligent minds, weary of fruitless attempts, perceived the folly of floundering a science in the imperfect remains of two dead languages; when they might have free access to the fair and legible characters of a book always open, and inviting their regard by incontestible marks of unwerring knowledge and wisdom.

N 2  German.
Gefner, in particular, the greatest naturalist whom the world had seen since the days of Aristotle, cultivated both zoology and botany, with a zeal which has never been surpassed; with a discernment and good sense which till then had never been known. He has the glory of having first discovered the experience of dividing plants into classes, genera, and species, and the necessity of taking the distinguishing characters of each division from the flower and fruit. He died of the plague in 1574; at the early age of fifty.

Gefner, who was his contemporary, and many years his survivor, engaged in the study of plants with equal ardour, but not with equal talents for just arrangement. He distributed them chiefly according to their size, their general habit, and their other salient qualities.

At this time also flourished Dr. William Turner, who may be accounted the father of English botany. It was he who first gave names to many English plants; and much praise is indisputable due to him for his diligence in examining, and judgment in discriminating, different species: but with respect to arrangement, he was far inferior even to Clusius; for he has dispersed his plants in the alphabetical order of their Latin names. The first part of his Herbal was printed at London in 1551; the second at Colonia, 1562; and the third, dated Welles, in 1564. It is in the black letter; and contains figures of most of the plants.

In the same period lived Dodonaeus, or Dodonos, who began to publish in 1552; and in 1583 collected all his works into one volume, which he quaintly called, "Stirpium Historiae Sex Pentades," because each larger division consists of five books.

This work is the foundation of Gerard's Herbal, so well known in England, and so long regarded as a standard book by the merely English botanical student. It was published in 1597, and comprises the whole vegetable kingdom in three books. The first contains the grasses, grain, rushes, reeds, flags, and bulbous-rooted plants; and exhibits a remarkable approximation to the arrangement of a very modern system, founded on natural affinities. It was suggested, however, by a regard not to the monocotyledonous character of the seeds, but to the simplicity and general form of the leaves. The second includes all herbs used for food, for medicine, or for their beauty and elegance. The third is a miscellany of trees, shrubs, fruit-bearing plants, roots, gums, resins, heaths, mosses, lichens, and sea-plants.

It was left to the judgment of Celsalpin to begin to execute what the penetrating mind of Gefner had first conceived; the arrangement of the whole vegetable creation in a regular system. His distinctive characters are taken from the different appearances of the flower, sometimes modified by the consideration of other parts; and though it cannot boast of being the bell in theory, or the most easy in practice, it poises great merit as the first essay in a difficult and important undertaking. Celsalpin is particularly worthy of regard, as the first writer who has distinctly mentioned the true difference of sexes in plants. He died in 1604.

The last of the writers of this period are the two Bauhins. John, the elder, was the friend of Gefner, and travelled with him into Italy; but, though ardent in his love of plants, he had no turn for systematic arrangement, and added nothing to botany, considered as a science. He wrote a general history of plants, which was published in three folio volumes, but not till 1650, 27 years after his death.

Gaspard, his brother, was much his junior in years, but far exceeded him in the greatness of his conceptions, and the extent of his services to their favourite pursuit. The publication of his "Piazz Theatri Botanici," in 1625, makes a new era in botany. This immense work, the fruit of forty years' labour, threw over the subject, as it then stood, a clear and conspicuous light, and threw at one view the information which had been given by a multitude of scattered authors. It afforded a ruling-place, a kind of fixed point, from which new excursions were to be made, and new achievements were to be attempted. But though he smoothed and shorted the way for others, it must be acknowledged of him, as well as of his brother, that he added little to what had already been done.

Many accession were soon after made to the number of known plants, by the labours of Pons and Zanoni in Italy, of Johnsson and Parkinson in England, of Hernandez, Pison, and Marcgrave in South America, and above all, of Rheede, who, in his "Hortus Malabaricus," brought to light about 800 plants, natives of the East Indies. But botany, as a science, made little progress for nearly half a century; when Morison, Ray, Rivinus, and Tournefort, all nearly at the same time, directed their attention to the classification of plants, and investigated the true principles on which it ought to be formed. Morison, in a second edition of Bruyn's "Hortus Regius Bieferis," published at Paris in 1669, gave the rudiments of an arrangement, founded on the fruit; and also asserted, that the characters of the genera should be taken from the same part: but in his history of plants, printed at Oxford in 1650, he did not strictly adhere to his own principle. His system was quickly succeeded, and its fame nearly eclipsed, by that of the immortal Ray, the outlines of which were first given, in 1682, in the "Methodus plantarum nova fysipotize in tabulis exhibita: cum notis generum tum ssummarum tum subalternor um characteristicis." The principal aim of this great naturalist was to preserve the natural families of plants, as they are connected by a sameness of structure and general habit. Influenced by the latter consideration, he retained the ancient division of the vegetable kingdom into trees, shrubs, and herbaceous plants; making no alteration, except in classing with the latter what are generally called succulents or under-shrubs. This system he afterwards improved and brought nearer to a natural arrangement; but he still left the characters of his genera in a great degree indeterminate, and governed by no fixed principle. The time was not yet come for taking this further step towards the perfection of the science.

The classification of Rivinus, derived from the structure of the corolla, was first made known to the world in 1650. It is more easy in practice than either of the former, but does more violence to the order of nature. It must, however, be mentioned, to his honour, that he was the first who perceived the propriety of not separating trees from herbaceous plants. They are accordingly blended together in different parts of his system.

As Morison soon yielded in celebrity to Ray, so Rivinus gave way to Tournefort, the glory of France, and equalled only by Ray, the glory of England. His elements of botany, in which the primary divisions are taken from the corolla, and the secondary ones from the fruit, were published in 1694. His arrangement, indeed, is not unexceptionable in all its parts, but its imperfections were from the defects of his principle; and though he did not define his genera in plain and appropriate terms, it is evident that he had formed just ideas of them in his own mind.

The fame of these two great men, who had done so much in promoting the progress of true scientific botany, obstructed, for a considerable time, its farther advancement. It was vain for botanists to contend, either in England or France,
France, with the established reputation and authority of their respectively favoured countryman. Several other systems were formed about the same time, among whom Boerhaave in particular had great merit; but none of them found many proteytes, or could boast of long duration. The first publications of Linnaeus made their way slowly, and with much difficulty. In England, so late as the year 1762, Mr. Hudson was the first who published a national Flora, arranged on the principles of the Linnean system. In France, owing to the personal antipathy of Buffon, the ideas of the learned Swede met with much greater and more pointed opposition: but they found an early advocate in the duke de Noailles; and, in 1765, the classification was adopted in the "Flora Montisplicia," of professor Gouan.

The distinction of sexual parts in plants had been discovered, and pretty generally admitted, before the time of Linnaeus; but he was the first who made it the basis of an artificial system. The first sketch of his "Systema Naturae" was published in 1735; and the "Fundamenta Botanica," in 1736. In 1737 they were followed by the "Critica Botanica," "Genera Plantarum," "Hortus Clifortianus," "Flora Lapponica," and "Methodus Sexualis." In 1751 appeared his great and most finished elementary work, the "Philosophia Botanica," and in 1753, the first edition of the "Species Plantarum," which completed his system, by extending it to the lowest division under which individual plants are collectively arranged. In his "Genera Plantarum," he had given a distinctive and precise generic characters, which they had never before received; and in this last publication he conferred the same obligation on the species; with the addition of trivial names, consisting of a single word, instead of the tedious specific names, as they were called, by which the conversion of botanists had till then been burdened and embarrassed. This innovation was at first violently condemned by a few disciples of the old schools, from an apprehension that it would be unfavourable to the recollection of specific distinctions; but its obvious convenience has long gained it universal currency.

Notwithstanding the supertative merit of Linnaeus, he found a rival and an opponent in Switzerland, as well as in France. The mighty genius of Haller could not condescend to walk in the trammels of another man. In his history of the plants of Switzerland, fixed by the very able and judicious president of the Linnean society, one of the most excellent and complete Flora the world ever saw, he has adopted a method depending chiefly on the number of the flaments, combined with the divisions of the corolla. But his system is now little talked of, and lefts fluided.

Linnaeus devoted the greatest part of his life to the construction and completion of a system confidedly artificial; but he was nevertheless fully capable, that the perfection of the science requires an arrangement founded solely on natural affinities. The idea of such an arrangement had been conceived, and partly executed, by several of his predecessors. The improved system of Ray, in particular, is a noble essay towards reducing the whole vegetable creation into fixed natural families. All other distributions are only proofs of the present defective state of knowledge, and are to be employed merely as helps for the attainment of a consummate system. Linnaeus has accordingly left what he calls fragments of a natural order, without pointing out their peculiar distinguishing characters; and the sublimits of his varieties have not been published, since his death, by his pupil Giscke, in which the omission is, in some degree, remedied; though, at the same time, it is strenuously maintained, that such characters as shall be at once completely comprehensive, and exclusively discriminating, are, in the nature of things, absolutely impossible.

Adamfon, a French traveller in Africa, has also attempted to form natural families of plants, not from the consideration of any particular part, but of all, without exception, from the root to the feed. But, independent of a multitude of other objections, it labours under the infuperable impediment of having the distinctive characters of each family drawn out to the length of times of four or five pages, without being capable of an abridgment.

The most successful attempt of this kind is that of Anthony Lawrence de Jussieu, the illustrious nephew of three illustrious brothers, who have been all distinguished for their attachment to botany, and for their eminent services to it. The outlines of this system were struck out by Bernard de Jussieu, demonstrator in the royal gardens at Paris; but owe their present more mature form to the skill and persevering application of his nephew, who succeeded him in his office. It is founded first on the number of the coryledons of the seed; next, on the insertion of the flaments with respect to the pistil, whether immediately on the receptacle, the calyx, or the pistil itself; or meditately, by the means of the corolla, similarly situated; and so on, from the essential to the non-essential, from the more to the less important parts, in a descending progression, to such as are the most variable and of the least value.

A methodical disposition of plants, from the character of the fruit, has lately been published by Gartner, a German botanist, who has laboured in this essential part with greater diligence and accuracy than any other writer.

But notwithstanding the acknowledged merit of these essays, the Linnean still continues the prevailing system, to which all the new genera, confituted for plants since discovered, are regularly referred; and it is to the advantage of the science, that it should, for a long time yet to come, preserve its ascendency. It is capable, indeed, of many improvements; but such improvements should be slowly and cautiously proposed, always keeping in view an approximation to a natural order. Most of the projects which have hitherto been formed for this purpose, betray more rashness than acute discernment, more love of innovation than capacity for removing real imperfections. While they seem to acquire greater simplicity, they become actually more artificial, and more violently destroy the connection of natural affinities. The deficiencies of the respectable Thunberg have not been generally admitted; the additional ones of Gmelin have been almost universally condemned; and Wildenow, the last and belter editor of the Species Plantarum, has restored all the ejected classes. Dr. Smith, with his usual judgment, has only expunged the order monogamia from the class fycngenetrix, and retained in the class polygamia only such plants as have an essential difference in the structure of their perfect and imperfect flowers.

See the article Classification of Plants, where the different systems will be detailed and examined. See also the Biblioteca Botanica both of Linnaeus and of Haller; La Marec's Preliminary Dicentro to the Botanical Part of the French Encyclopædia; Dr. Smith's Introductory Address to the Linnean Society; Dr. Pulteney's View of the Writings of Linnaeus; and his Sketches of the Progress of Botany in England.

Botany Bay, in Geography, a capacious bay on the eastern coast of New Holland, so called by captain Cook, who anchored there on the 20th of April 1770, from the great number of plants which were found in its vicinity by sir Joseph (then Mr.) Banks, and Dr. Solander. The land on the sea-coast is moderately high, and nearly level, but in general
general higher than it is in the interior parts, and covered with steep rocky cliffs near the sea, which resemble a long island lying close under the shore. The harbour lies about the middle of this land; and, in approaching it from the south, is discovered before the ship comes abreast of it; but from the north it is not discovered so soon. About the head of the harbour, there are large banks of sand and mud, on which are great plenty of water-fowl, and large quantities of oysters, mussels, cockles, and other shell-fish, which supply the natives, who gather them by means of their little canoes in flood-water, with the principal means of their subsistence.

From the report of Cook, who carefully examined this coast, and took possession of it in the name of the king of Great Britain, it was thought to be a desirable situation for a settlement; and accordingly it was proposed, at the close of the American war, to transport felons thither, who were sentenced to this kind of punishment. This plan was adopted in 1786; and the first ship sailed from Spithead in January, 1787, and arrived thither in the same month of the following year. It appeared, however, from the report of Cook and other navigators, that it was subject to the inconvenience of a great scarcity of water, and on the arrival of the first settlers, that it afforded advantages for the establishment of a colony much inferior to such as they expected to find; the soil being swampy, water-feece, and the bay itself inconvenient for shipping, on account of the shallowness of the water, and its exposure to the easterly winds; and it was therefore resolved by governor Phillip to transfer it to another inlet, about 12 miles farther to the north, called Port Jackson, on the south side of which, on a spot called Sidney Cove, this settlement is now fixed.

For a further account of the settlement, and of the country, see New Holland.

Two French ships, called the Allorob and Bouffolc, which left France, on a voyage of discovery, under the command of M. la Peyrouse, in 1785, arrived in this bay in the beginning of the year 1788; and during their stay, father La Reveur, who had come out in the Allorob, as a naturalist, died of the wounds he had received in a conflict with the inhabitants of Matuna, one of the Isles des Navigateurs, at which they touched. A monument, bearing an inscription, was erected to his memory, but was soon destroyed by the natives. But governor Phillip caused the inscription to be engraved on copper, and nailed to an adjacent tree.

Botany bay lies in S. lat. 34° 56', and E. long. 151° 57'.

Botany Island, an island in the Southern Pacific ocean, near the coast of New Caledonia; so called by Captain Cook from the number and variety of plants it afforded. S. lat. 22° 26' 40'; E. long. 167° 16' 45'.

Botargo, a sort of caponage, made of the milts and roes of the mullet-fish, much used on the coast of the Mediterranean, as an incentive to drink. The manner of preparing botargo, as practised at Martegues in Provence, is described by Mr. Ray. The milts, nigcles, are taken in "burdiges," which are places in the shallows inclosed with hedges of reeds. The male millets are called "allactons," the female "boters," of the roes or spaw of which the botargo is made thus:—They first take out the spawn entire, and cover it round with salt for four or five hours; then they press it a little between two boards or flumes; then they wash it, and at last dry it in the sun for thirteen or fourteen days, taking it in at night. Ray Trav. p. 356, seq.

The method of making the botargo, in the towns of Koflow and Kaffa, in Cim Tartary, on the coast of the Black Sea, where the mullet abound, is as follows:—Immediately after the fin spawns, the spawn is put whole into a strong brine, and slightly immersed; when it is thought to be sufficiently done, it is put into pots, and covered with melted wax, to prevent it from spoiling; and it will then keep for a long while, and may be conveyed to very distant countries.

The people of Provence call it bow-argues. The best is brought from Alexandria and Tunis. There is also a manufacture of it near Marsills. It is much used throughout all the Levant, and usually eaten with olive-oil and lemon-juice.

Botarissas, Strinhas, See Botarissas, Bell Ag., one of the synonyms of gadaa botaa, called also claria fluminis, by the same author; by the English, cod-pot, or turbot. See Lotta, Gauda.

Botatrice, in botany, synonymous with botarissas, cod-pot, and gadaa botaa. See Botarissas, and Lotta.

Botaurus, in ornithology, a species of Ardea, with a smooth black head; body above circular and fuscous, variegated; beneath rufous; lore and orbits naked and yellow; throat white, streaked with black, and reddish. Gmel.

This is botaurus major of Brillou and grand bataur of Buffon; greater speckled, or red heron of Ray and Willughby; greater bittern of Latham.

Ardea botaurus is a native of Italy; length three feet nine inches; the bill is yellowish; irides yellow; feathers on the head and breast long and flowing.

Bote, Bota, in our old Law-Books, signifies compensation, satisfaction, or amends, for any injury done. See Botovers.

Hence man-bote, satisfaction due for a man slain. In king Ino's laws it is declared what was the rate ordained for this offence, according to the quality of the person slain.

Hence also batelets (charter of Hen. I. to Thomas archbishop of York), where no judgment or favour will acquit a man; as, v. gr. for faiteges, &c. And hence our common phrase to bote, speaking of something given by way of compensation.

Bote, cart, fire-bote, hay-bote, house-bote, kin-bote, plough-bote, fife-bote. See the adjectives.

Bote fleux, in Gunneria, are flits two or three feet long, and an inch thick, split at one extremity, to hold an end of the match twinned round it, for firing the cannon.

Botenmalaitos, a star in the constellation Cetus, called also Battenehos.

Boternhofen, in Geography, a town of Germany, in the duchy of Holstein, 9 miles S.S.W. of Norderp.

Boterola, in heraldry, is the tag of a broad-foiled scabbard, and by the French heralds esteemed an honourable bearing.

Botervigie van Boer, in Zoology, (Connus gulae, Linne) is described under this name by Kupplius.

Botescard, in Ancient English Writers, the same with bovetain.

Botesdale, in Geography, a market-town of Suffolk, in England, is seated near the borders of Norfolk, on the turnpike road which leads from that place to Bury St. Edmunds. It was formerly called Botolph's-Dale, from a chapel dedicated to that saint in a valley. This faced structure had long continued in a state of dilapidation, but Thomas Holt esq. and some neighbouring gentlemen, raised a subscription, and had it properly repaired and fitted up for its original dedication. This town enjoys the advantage of a free grammar school, which was founded and endowed by the eminence Sir Nicholas Bacon, who was created the first baronet of England. He also bequeathed other legacies to the town; and the school has been since enriched by the donations of other persons. Botesdale is annexed to the rectory of Redgrave, the church of which is highly interesting to the hibertian and antiquary, from its including the monuments and remains.
remains of Sir Nicholas Bacon and his lady, also another magnificent one for lord chief justice Holt. The latter is said to have cost £300, and the former (executed by Nicholas Stone) £500. Both these illustrious men were successively poiffessed of the lordship of Reighgrave, where the abbot of Dury had previously "his fairest country-Seat." The fine old manor has been succeeded by a modern building; and the place, now poiffessed by a descendant of chief justice Holt, is considered "one of the finest in the county" of Suffolk.

Bothfield has a weekly market on Thursday, and two annual fairs. It contains only 65 houses, and 536 inhabitants, of which number 222 are employed in manufactures. From Norwich it is 27 miles, and from London 86 miles N.E. Gaugh's Camden, vol. ii. Magna Britannia, vol. iv.

BOTEY'OURT, one of the American counties in the state of Virginia, situated between the Alleghany and Blue ridges; its chief town is Fincastle.

BOTH, John, in Biography, an eminent landscape painter, was born at Utrecht in 1610, and, after having been the disciple of Abraham Bloemaert, went for improvement to Rome, where he resided many years; directing his attention to landscape, in which he attained to high perfection. His model was the style of Claude Lorraine; and some of his performances are mentioned in competition with those of Claude. The warmth of his Stites, the judicious and regular receding of the objects, and the sweetness of his diffusions, afford a pleasure superior to that produced by the works of almost any other artist. His tints are so admirably formed as to express not only the light of the morning breaking from behind hills and woods, and diffusing a warm glow over the whole face of nature, and also the setting of the sun with its tinge in the clouds, but even the different hours of the day. By his colouring he obtained the distinction of being called "Both of Italy." We have also by his hand a set of ten landscapes, which are etched in a light, free, masterly style. He left his life by accidentally falling into a canal at Venice in 1650. Pilkington and Strutt.

Both, Andrew, brother of the former, and disciple of Bloemaert, accompanied him to Rome, and applied to the study of figures, in which he imitated the style of Bamboccio with great success. The two brothers mutually assisted each other till the death of John; and then Andrew returned to his own country, where he painted sometimes portraits, and sometimes landscapes, in the manner of his brother, and also conversations, and players at cards, in the manner of Bamboccio; and where he died in 1656. Andrew Both also etched some few plates in a free, masterly style, resembling that of Oltade, viz. six small upright plates of "Dutch merry-making," to which he affixed his name; "St. Anthony praying with a scull before him," and "St. Francis with a crucifix before him," his companion. Pilkington and Strutt.

Both, in Geography, a river of Germany, in the circle of Bavaria, which runs into the Inn, near Scherding.

Botha's, off, in Sea Language, expresses the situation of a ship failing right before the wind.

Bothagium, Bothage, or Boothage, customary due to the lord of the market, for the liberty of pitching and landing of boats.

Bothena, Bothina, or Bothina, in the Scotch Law, a park or field wherein cattle are inclosed, and fed. The word is also written burden; formed from the ancient Scottish buth, a flock of sheep.

Bothena is also used for a barony, lordship, or shireedom. In which sense it is ordained by statute, that the king's moot or court of each bothena, that is, each shireedom, shall be held within forty days.

Bothfield, in Geography, a district of Germany, in the buitwick of Calculberg, containing of five villages, of which Bothfield is parochial.

Bothmar, a county of Germany, in the principality of Zell, and 7 leagues W. of it; situated on the Rhine.

Bothnia, East, Ofer-botten, Lat. Ofro-bottonia, a province of Sweden, situated on the east side of the gulf of Bothnia, whence it derives its name, is bounded on the north by Swedish Lapland, on the east by Raflia, on the south by Finland, to which it properly belongs, and on the west by the gulf of Bothnia. Its extent has not been accurately ascertained; for some it has been computed to be about 50 Swedish miles long, and 40 broad; and by others its length has been estimated at 66 Swedish miles, and its breadth at 12. It is separated from Raflia and Finland, properly so called, by a chain of hills, which runs along its call side. These mountains supply large rivers, of which some discharge themselves into the White Sea, and others into the gulf of Bothnia and Finland. The country, especially on the sea coast towards the south, is low and marshy; however, the industry of the inhabitants has made it productive of corn, though the cold and frost often disappoint their hopes, and several tracts of land he waste. It abounds with wood, and its lakes and rivers yield plenty of fish. Some of the rivers are said to have furnished pearls. The inhabitants derive their chief subsistence from agriculture, grazing, burning lime and tiles, and making pitch and tar. They also employ themselves in fishing and hunting, ship-building, and the manufacture of wooden-ware. Those who inhabit the rocky islands near the sea-coast speak the Swedish language, but those of the inland parts use that of Finland. The number of inhabitants is estimated at about 80,000, who are scattered over 28 parishes, 15 of which are occupied by Finns, and nine by Swedes, and which are under the jurisdiction of the bishop of Abo. The commodities furnished by this country for exportation are timber, butter, cattle, fish, oil, pitch, tar, &c. East Bothnia is divided into three parts or lehns, which are under one governor. Its chief towns are Cajana or Cajaneborg, Utsa, Brahehall, Gemla-Carkby, Ny-Carlby, Jacobiack, Wafa, and Chriflineflett.

Bothnia, West, a province of Sweden, lying on the west side of the gulf of Bothnia, and bounded on the north and west by Lapland, on the south by Angermanland, and on the east by the gulf of Bothnia. That part of this province which is inhabited extends from the frontiers of Angermanland to the church of upper Torna, and is computed to be about 58 Swedish miles in length, and from 16 to 18 miles in breadth. Off the coast of this province are several pleasant islands, and its interior has several forests, with lakes and rivers. It has also excellent pastures among the mountains, the summit of which supplies the rein-deer with moss. The soil is tolerably fertile, and produces corn, which is sown late, and ripens in six, seven, or eight weeks, but which is often injured by the sudden frosts of July. This province has several mines of copper and iron. The inhabitants are celebrated for their hardiness and valor; they supply the agriculture, grazing, hunting, and fishing; and even in fruitful years mix their corn with chaff and pulverized pine bark, with which they make their "flame-bott," or pounded bread. They traffick in beams, deal-boards, and other timber, shingles, tar, tallow and smoke-dried salmon and other fish, wild fowl, venison, common train-oil, tallow, butter, and cheese; and also in fables, and skilis of blue and white foxes, ermines, bears, wolves, martens, hyenas, beavers, and rein-deer. These commodities are carried by them, not only to other parts of Sweden,
Sweden, but over the mountains to Norway, and through extensive defiles to Russia. It is divided into four vogues or inferior governments, contains two provincial juridictions, and, with regard to its ecclesiastical date, belongs to the see of Hernaland. The principal towns are Umea, Pitea, Lulea, and Tornoe.

Botnia, gulf of, one of the branches into which the Baltic is divided; the other being the gulf of Finland. The former is separated from the Baltic by the isles of Aland, is bounded on the east, west, and north by the Swedish dominions, and extends between them, from Aland to Tornoe, about five degrees and a half in latitude, or about 179 leagues from north to south, and from 18 to 35 in breadth from east to west.

Bothnicus, in Entomology, a species of Cryptothalus, Chryseola botanica of Linnaeus. The colour is deep black, with a longitudinal red line on the thorax. Inhabits Sweden.

Bothoa, or Bothus, in Geography, a town of France in the department of the north coast, and chief place of a canton, in the district of Guingamp; the place contains 2021, and the canton 7554 inhabitants; the territory comprehends 207½ kilometres, and 8 communies.

Bothwell, an ancient barony and parish of Scotland, which includes an area of about 85 miles in length by 4 miles in breadth. The bridge in this parish, which crosses the Clyde river, is memorable for an engagement fought on the south side of it, June 23, 1659, between the royalists, under the duke of Monmouth, and the presbyterian insurgents. In this fatal conflict the latter were defeated, with the loss of 400 slain, and 1200 taken prisoners. Here are the remains of a castle, which appears to have been formerly of very large dimensions. It is frequently mentioned in the annals of Scottish history. Sir John Sinclair's Statistical Account, vol. xvi.

Both, in Geography, a town of Siberia; 32 miles S. of Orkhang. Also, a town of Siberia, 76 miles N. E. of Nertsehik.

Bothicum, in Ancient Geography, a town of Asia Minor, in Phrygia, which had a market that produced salt. Steph. Byz.

Bothias, a name given in Spain to a smaller sort of alcarras, or vessels used for cooling water; the larger sort being called jarras. See Alcarras.

Bothstemeni, in Geography, the name of a mountain in the southern part of the island of Madagascar.

Bothian, Al Mokhtar Ben Hassan, Ben Aboun, or D'Ern Bothian, in Biography, a Christian physician of Bagdat, the contemporary and antagonist of Ibn Rodwan. It is said that Bothan, in order to be personally acquainted with his adversary, made a voyage into Egypt, A.D. 1047. On leaving Egypt, he went to Conflantinople, where he lived a year. He is the author of the following works, viz. "Kenash," or a compendium of medicine, for the use of the convents; "Instructions how to buy slaves, and to make profit of them;" "Tables of health;" "Of the diseases of physicians;" "Introduction to the art of medicine;" "Devat et athebba;" or the religion of physicians; and "Of the cure of a child who had the stone." D'Herbelot.

Bothna, or Kavzen, in Geography, a river of European Turkey, which runs into the Dnieper, near Benders.

Bothol, or Botol Tabuya-xima, Taboza-xima, or Tabazo-Sinya, the name of two islands in the Chinese seas, situated at the distance of about 5 leagues from the south point of Formosa, and on the same parallel. The great island, at its south-east point, is placed, by captain Marchand, in N. lat. 22° 5', and E. long. 121° 34'; by Dalrymple's chart, in N. lat. 22° 6', E. long. 121° 50'; by La Pérouse, in N. lat. 21° 57', E. long. 121° 52'; by Chamal, in N. lat. 22° 5', E. long. 121° 54'; and by G. Robertson, in his table of positions, in N. lat. 22° 6', E. long. 121° 41' 45". This island is sufficiently elevated to be seen at a distance of 15 leagues, when the sky is clear; it is about 4 or 5 leagues in circumference; and it is well peopled with inhabitants, as Marchand observed fires blazing during the night; and La Pérouse, on approaching very near to it, distinguished three extensive villages within the space of a league. It is very woody from about one-third of its elevation, taken between the water's edge and its summit, which appeared to be crowned with trees of the largest size. The declivity of the space between these forests and the beach is very rapid. It was covered, says La Pérouse, with the most beautiful verdure, and in many places cultivated, though arrowed by the torrents that descend from the mountains. The small island of the same name, the only one, probably observed by lord Anson, the other being very often covered with fogs, lies to the south by east of the great one, in N. lat. 21° 57', and E. long. 121° 50', on the same parallel with the middle of the great island, according to Dalrymple's chart; but on the parallel of its south-east point, according to that of La Pérouse. It is somewhat less elevated than the larger island, (not half so high, says La Pérouse,) but, however, sufficiently lofty to be seen at the distance of 10 or 12 leagues. These two islands are separated by a channel half a league in width; and both shores, as well as the channel, appeared to Marchand, equally free from rocks or islets. On the small island La Pérouse perceived some little verdure and a few bushes; but he says, that it is neither inhabited nor habitable. He adds, that if there be any anchorage at the great island, it is extremely near the coast. Marchand's Voyage, vol. ii. p. 60. La Pérouse's Voyage round the World, vol. iv. p. 9. Eng. Ed.

Botone, in Heraldry. See Cross Botone.

Botontini, in Middle Age Writers, denotes mount or hillocks, raised to serve as land-marks, or boundaries of grounds. The word is also written botontone, botone, and botones. Du-Cange Gloss. Lat.

Bototo, in Ornithology, a name given by the people of the Philippine islands to a beautiful bird of the parrot kind, but of what species is rather uncertain. It is described as being smaller than the common parrot, and the plumage totally of a fine blue colour. It agrees with the blue parakeet of Othoheite, Pittacus Cyanus, and may very possibly be the same.

Botovskai, in Geography, a town of Russian Tartary; 20 miles S. S. W. of Koperik.


There is only one species known, which is a climbing shrub, with scattered heart-shaped, three or five-lobed, veined, crenulated, villose leaves; and small reddish flowers on common axillary peduncles, which terminate in tendrils. It is found on the coast of Zanguebar, where it is esteemed a diuretic. Its berries are eaten; and a decoction of its root is given in cases of pleurisy, inflammation, and abscess.

Botro, in Geography. See Bourtos.

Botrodus, in Ancient Geography, a place of Spain in Celtiberia, mentioned by Marius in his epigrams.

Botrites, in Natural History, a stone of the gem kind,
kind, resembling a branch of young grapes. The word is formed from οἶνος, a grape. In English writers, it is sometimes called the grape-juice.

Botryites, or Botries, also denotes a sort of burnt cadmia, formed somewhat in the form of a bunch of grapes, adhering to the upper parts of furnaces, where that mineral is calcined. It differs from the placites, which is that gathered on the lower parts of the furnace; though Schroder gives a different definition, viz. into botrites, found in the middle of the furnace, placites in the upper, and otracies in the lowest part.


Botryoides, in Natural History, a species of Madrepores, having thick, fleshy, ould, clustered branches, with reticulate, craggy indentations. Habitat, unknown. Described in Solander and Ellis's Corallines.

Botrus, in Ancient Geography, a city of Phoenicia, near the coast and south of the river Eleutherus, mentioned by Polybius, Melas and Polybus. According to the latter (lib. v.) it was built by Ethbal, or Ethbalus, who reigned at Tyre in the time of Abib, about the year 923. B. C. Stephanus Byz. thinks that this was the city which is called by Josephus (xxii. 36) Tarus, and by the LXX Buxis, and enumerated among the 43 cities which were allotted to the Levites. This city, in Chalilien times, became an episcopal see, and its bishop, Porphyry, affiliated at the council of Chalcodon, held A. D. 449.

Bott, among Bone-lace Weavers, a kind of round cushion of light matter placed on the knee, wherewith they work or weave their lace with bobbins, &c.

Among the French the bilt, called ocellaire, is a little square wooden frame or deck, covered ordinarily with green stuff.

Bott, in Entomology. See Botts.

Bottstein, or Pottenstein, in Geography, a town of Germany, in the circle of Franconia, and bishopric of Bamberg; 22 miles E.S.E. of Bamberg.


Bottesdale. See Bottsdaie.

Bottetano, a town of Germany, in the county of Tyrol; 10 miles S. of Bruneck.

Bottia, or Bottia, in Ancient Geography, a country of Macedonia, in the neighbourhood of Thrace. Its limits are not ascertained by the ancient geographers, who mention it. Herodotus places it at the towns of Ichne and Phelm.

Bottle, a small vessel proper for holding liquors.

The word is formed from butellus, or butella, used in barbarous Latin writers, for a leffer vessel of wine; being a diminutive of buta, which denoted a butt or cask of that liquor. It is evidently derived from bute, bote, buta, batulea, butellaa, which occur in the middle ages.

We say a glafs bottle, a floe bottle, a leathern bottle, a wooden bottle, a bucking bottle.

Of glafs bottles, says Beckmann (Hist. of Inventions, vol. ii. p. 124.), no mention occurs before the 15th century; for the "Amphore vitree diligenter gypsta" of Petronius, (Sat. c. xxxiv. p. 86.) to the necks of which were affixed labels, expressing the name and age of the wine, appear to have been large jars, and to have formed part of the many uncommon articles by which the voluptry Timalchico wished to distinguish himself. It is, however, singular, that these convenient vefles were not thought of at an earlier period, especially as among the small funerals of the ancients, many are to be found, which, in shape, resemble our bottles.

Mr. Beckmann conceives, that he discovers the origin of our bottles in the figure of the Syracusian wine-flasks. Charpentier (Gloff. Nov. 1. p. 1722.) cites, from a writing of the 13th century, an expression which seems to allude to one of our glafs bottles; but this, attentively considered, refers merely to cups or drinking glasses. The name botellae, or botellae, occurs in the French language for the first time in the 15th century; but if it were more ancient, it would prove nothing, as it signified originally, and still signifies, vefles of clay or metal, and particularly of leathcr. Such vefles, filled with wine, which travellers were accustomed to fipend from their faddles, might be ftopped with a piece of wood, or clofed by means of wooden or metal tops ferewed on them; and fuch are still used for cuflon pitchers. We fhall here add, that ftoppers of cork muff have been introduced after the invention of glafs bottles. In 1553, they were little known; and their introduction into the fhips of the apothecaries in Germany took place about the end of the 17th century. Before that period, they ufed ftoppers of wax, which were more troublesome and more expensive.

The ancient Jewish bottles were cags made of goats' or other wild beafts' skins, with the hair on the inside, well fewed and pitched together: an aperture in one of the animal's paws ferving for the mouth of the vefl. Calmer.

Bottles of this kind are mentioned in scripture, and called οὐκόον; and they were ufed for carrying water through the deferts of Arabia and other countries, where springs and freams are fcarce. Such bottles, indeed, have been in common ufe both in ancient and modern times. They are mentioned by Homer, Od. v. 74, v. 246, and Od. v. 265. Salith speaks of them in Bell. Jug. 96, where he fays "Ex curris ures uti furent curabat," i.e. He provided bottles made of skins. That the ancient Romans were acquainted with goat-skin bottles is also evident from two lines of Virgil (Georg. ii. v. 58, 58.)

"Mollibus in pratis uncios faliere per ures.

From the circumfulions here alluded to we may infer, that these were leather bottles, which were oiled on the outside to make them more flippier, and more likely to ocafion the fall of thofe that hopped upon them. Horace (i. ii. Sat. i. v. 69, 69.) mentions greaty water, which was given to his gofts by Nauius, a man of a pariflonious difposition. Thus,

"Necque fruct simplex Nauius, unclam
Convivis præbebit aquam. Vitium hoc quoque magnum.

This "aqua uccia" has puzzled commentators; but it probably refers to an oillets, which the water contracted by being fetched in unclean leather bottles. Thofe, however, to which the fame appellation of bottles is applied in our translation of the Old Testament, are expresfed by different terms in the original; and they were made of various forms, and confided of different materials. Thus, in Gen. xxvi. 14. the "wottle," of water, given by Abraham to Hagar for herfelf and Ishmael, is in the original בזית, (bethzet,) which denotes an earthen pitcher; and it appears from Habbakuk (chap. ii. v. 15.), that they were ufed to drink out of thefe bethzets. Sir John Chardin, however, fuppofes that the bottle given to Hagar was a leathcr one. The "wottle" of wine, which Samuel's mother brought to Eli, (1 Sam. i. 24.) is called בזית, and was probably an earthen jar or jug; and the fame word is also ufed in Sam.
The term, translated "earthen bottle," in Jerem. xix. 14, is "bottle." A very different word is used in Judges xiv. 19, to signify the vessel out of which Josue gave milk to Sibera; it is called "Nadn, nade," which, having some reference to moist or oozing, was probably made of goat-skin, or the skin of some animal, and being constantly kept full of milk, was preferred in a plastic state. The same word is also used to denote the bottle in which Jeph sent wine by David to Saul, 1 Sam. xvi. 20. "Nadn" is also used to express the bottle into which the Pharaoh defines that his tears might be collected, Psa. xi. 8; and that to which he refers himself, Psa. cxviii. 83. He says "I am become like a bottle in the smoke," i.e., like a bottle kept in the tents of the Arabs, blackened with smoke. To the men of such a drinking vessel as a goat-skin bottle, as well as to the blackens contracted in the Arab tent, the Pharaoh probably refers; and it was a most natural image for him to use, driven from among the vessels of silver and gold in the palace of Saul, to live as the Arabs did, and consequently to be obliged frequently to drink out of a smoked leather bottle. The word used by Job (ch. xxvii. 19.) in the plural, is "Nadn, nade," and as "Nad, nade," in general, to feel or dwell, is it properly used to express a skin bottle, which would be made to swell by the liquor poured into it, and which would be more distended and enlarged, till they would at last burst, if they had no vent, by the fermentation of the liquor, as it advanced towards ripening. Hence we perceive the propriety of putting new wine into new bottles, &c., according to the appropriate allusion in the gospels (Matt. ix. 17, Mark, ii. 22, Luke, v. 37, 38), which being moist and strong, would refill the expansion, and preserve the wine to due maturity; whereas old bottles of this kind, being dry and more brittle, would be in danger of bursting, and were best adapted to receive old wine, the fermentation of which had ceased. These leather bottles are supported, by a faered historian, not only to be frequently rent, when grown old and much used, but also to be capable of being repaired (Josh. ix. 4.).

Modern travellers, as well as ancient authors, frequently take notice of these leather bottles. The Arabs, says Sir John Chardin, and all those who lead a wandering life, keep their water, milk, and other liquors, in these bottles, the manner of repairing which he also describes. They serve, according to this writer, to preserve their contents more fresh than in any other way. They are made, he says, of goat-skins: when the animal is killed, they cut off its feet and its head, and in this manner they draw it out of the skin without opening its belly. They afterwards few up the places where the legs were cut off, and the tail, and when it is filled, they tie it about the neck. These nations, and the country people of Persia, never go a journey without a small leather bottle of water hanging by their side like a flap. The great leather bottles are made of the skin of an ox, goat, and the small ones, that serve instead of a bottle of water on the road, are made of a kid's skin. In speaking of the Persians, the same traveller says, that they use leather bottles, and find them useful in keeping water fresh, especially if people, when they travel, take care to moisten them, wherever they find water. The evaporation thus furnished serves also to keep the water cool. He says, that the disagreeable taste of the leather is taken off, by causing it to rubake rofe-water, when it is new, and before it is applied to use. Formerly, it is said, the Persians perfumed their leather vessels with myrrh, or with incense. From him also we learn, that they put into these goat-skin and kid skin vessels every thing which they want to carry to a distance in the East, whether dry or liquid; they are thus preferred rather than if they were conveyed in boxes or pots; the ants and other insects are prevented from getting among them; and they are thus kept free from dust; and for these reasons butter, honey, cheese, and other such aliments, are included in vessels made of the skins of these animals. Accordingly, the things, particularly the balm and honey, which were somewhat liquid, that were carried to Joseph as a present, (see Gen. xlix. 11.) were probably included in little vessels made of kid-skins. Homer also refers to this mode of preserving various kinds of provision in leather vessels. Od. ii. 374.

The bottles made of skin resemble the "Girba," described by Mr. Bruce, in his Travels through Abyssinia, vol. iv. p. 334. "This," he says, "is an ox's skin squared, and the edges sewed together very artificially by a double seam, which does not let out water, much resembling that upon the bull English cricket balls. An opening is left in the top of the girba, in the same manner as the bunghole of a cask. Around this the skin is gathered to the size of a large handful, which, when the girba is full of water, is tied round with whip-cord. These girbas generally contain about 60 gallons, and two of them are the load of a camel. They are then all bismarked on the outside with gravel, as well to hinder the water from oozing through, as to prevent its being evaporated by the action of the sun upon the girba, which, in fact, happens to us twice, so as to put us in imminent danger of perishing with thirst,"

Glast bottles are better for cyder than those of stone. Glast bottles are cured by rolling sand or small shott in them; moly bottles, by boiling them.

Bottles are chiefly made of thick coarse glasses; though there are likewise bottles of boild leather made and sold by the cafe-makers.

Fine glasses bottles covered with straw or wicket, are called glaffes, or buttes.

The quality of the glases has been sometimes found to affect the liquor in the bottle. Mem. Acad. Scienc. 1704.

Bottle, is also a measure at Amsterdam, the same with the mingle.


Bottle, white. See Cucubalos Bheben.

Bottle-head, a species of whale.

Bottle-nose, in Natural History, a name given by the English to various animals; the cachalot is called the bottle-nose; so also any of the whale tribe distinguished by the gibbosity of their snout. In some parts of England the anus articulus of old writers is called the bottle-nose.

BOTTLING, or Bottling, the operation of putting up liquors in bottles corked, to keep, ripen, and improve.

The writers on good husbandry give divers rules concerning the bottling of beer, cyder, and the like. The virtues of Spa, Pyrmont, Scarborough, and other waters, depend on their being well bottled and corked, otherwise they lose both their taste and smell. To preserve them, it is necessary the bottles be filled up to the mouth, that all the air may be excluded, which is the great enemy of bottled liquors. The cork is also farther secured by a cement. Some improve their bottled beer, by putting crystalls of tartar and wine, or malt spirits; and others, by putting sugar boiled up with the essence of hone herbs and cloves, into each bottle.

Cyder requires special precautions in the bottling; being more apt to fly, and burst the bottle, than other liquors. The best way to secure them, is to have the liquor thoroughly fine before it be bottled. For want of this, some
leave the bottles open a while, or open them after two or three days bottling, to give them vent. If one bottle break, through fermentation, it is best to give them all vent and cork them up again. Mean cider is apter to break the bottles than rich. Some foaks the corks in sweetening water, to render them more pliant and serviceable. See Cyder.

Another particular to be observed is, to lay the bottles so as that the liquor may always keep the cork wet and swelled. Something also depends on the place where the bottles are set, which ought to be such as exposes them as little as possible to the alterations and impressions of the air: the ground is better for this purpose than a frame; sand better than the bare ground; and a running water, or a spring often changed, belt of all.

To hasten the ripening of bottled liquors, they are sometimes set in a warm place, or even exposed to the sun, when a few days will bring them to maturity.

BOTTOM, the lowest part of a thing as contradistin-
guided from the top.

Hydrostatical writers speak of the pressure of fluids, on the bottom of vessels; in which case, the law of gravitation is, that the altitude remaining the same, the pressure will be as the bottom. M. Leibnitz has affirmed, that a body, in falling through a fluid, does not press on the bottom, that is, does not increase the pressure on it; which is found to be false. Phil. Trans. No. 351, p. 370. A. D. S. an. 1692. p. 16.

When water boils, the bottom of the vessel is found considerably colder than it was some time before boiling; infor-
much that the hand may bear it in the former case, not in the latter. Hill. Ac. Sc. an. 1703. p. 29. See Boiling.

Bottom, in Navigation, denotes the ground or surface of the earth under the water.

They say, a rocky, sandy, gravelly, clayey bottom; a bottom with good hold, with a bad hold, &c.

The bottom of the sea, Ray observes, is level, i.e. the defcent from the shore to the deep is equal and uniform; but the bottoms of some seas are found higher than those of others. Count Marfigli has made divers inquiries into the structure of the bottom of the sea, and its beds of stones, silt, bitumen, &c. Ray, W. of Cret. part i. p. 84. See Sea.

Over the natural bottom of the sea is formed an acciden-
tal bottom, by the mixture of different matters, sand, shells, mud, &c. strongly compacted by the glutinous qua-
Hill. Acad. Sc. 1710.

Bottom of a Ship, that part of a ship below the water. This is also called the quick-work; and that above the water is called the dead-work. As the good or bad qualifications of a ship, with regard to sailing, steering, and staying well, veering, carrying full, flowing her cargo, carrying guns, &c. depends, in a great measure, upon the form of the bottom, every attention ought, therefore, to be paid to this particular point; and hence the method of contriving the bottom of a ship, so as to answer any intended purpose, is the nicest and most difficult part of ship-building; to this article the reader is referred.

That a ship may fail well, it is necessary to give her a long floor, with little rising both fore and aft, and the capacity of the fore-body equal, or nearly so, to that of the after-

body.

In order to make a ship steer well, the after-part of the bottom must not be full; the wing transom carried pretty high; the fashions-pieces well-formed, and not full below the load-water line; the midhip-frame carried well forward; to draw more water aft than at the stem; a considerable rake forward, but the stern-poll to be nearly perpendicular to the keel; and the upper works to be tight and as low as possible.

That a ship may carry a press of sail, the floor-timber must be flat and long; the lower futtock full; upper futtock nearly straight; the breads to be thrown out aloft, the main breadth carried high; the upper works light; and hence, the centre of gravity low.

To make a ship keep a good wind, and drive little to lee-
ward, requires a considerable length of keel, with respect to her breadth; a deep hold, and consequently a short floor-
timber, with a considerabile rising.

In order that a ship may carry her guns well above the water, she must have a long floor-timber, and not much rising; a full midship-frame; a low wing transom, and light upper works.

To obtain the preceding properties, very opposite rules must be followed; and hence it appears to be almost im-
possible to construct a ship so as to be possessed of them all. The body, however, must be so formed, that as many of these properties may be retained as possible; always observ-
ing to give the preference to those which are most required. If it is known what particular employment the ship is wanted for, those qualities then are to be principally adhered to, which are most essentially necessary for that employment.

Bottom, Copper, a practice now become pretty general in Britain, of covering the bottom with sheets of copper, which accelerates the falling of a ship, prevents the bottom from being worm-eaten, and keeps it long clean. It is, therefore, necessary, that ships, making long voyages, should be coppered.

Bottom, Double; a ship of this kind was constructed by Sir William Petty in the year 1663, which was found to fail considerably farther than any of the ships with which it had an opportunity of being tried. Her first voyage was from Dublin to Holyhead; and in her return, she turned into that narrow harbour against wind and tide, among rocks and ships, with such dexterity as many old seamen confessed they had never seen the like. This vessel, with seventy more, were lost in a dreadful tempest.

Bottom, Foul, that is, when the bottom of a ship is covered with shell-fish, weeds, &c. This greatly retards the rate of a ship, and prevents her from steering and working, and, besides, proves sometimes fatal. An instance of this happened to a large built ship from Africa, in this foul condi-
tion, that could not be steered into Liverpool, but was lost, entirely owing to her bottom not being scrubbed during the voyage. Every possible means ought, therefore, to be used to keep the ship's bottom clean. For this purpose a cask of scrubber has been found to answer with success when at an-
chor, and in calm weather on the open ocean. This scrubber is made of elm, about an inch thick, and a foot broad, the middle part of the frame just to fit a ten gallon cask, that was lathed to the bottoms at each end, and the long square spaces on each side of the cask were filled with birch-broom stuff, which projected about fix inches without the frame, and wedged flat towards the ends, with long wedges against boards that flide with small tenons at each end in a groove, to keep the birch flat and firm. Two of these were con-
ected together by iron-work, having a joint, that they may the more naturally ply to the curved or rounding parts of the ship's bottom. In using this scrubber, a block was fastened under the bowspit end, and another on the driver boom, rigged out right aft, a single block is reved in these blocks, and made fast to the slings, and just long enough...
to veer and haul the scrubber along the bottom fore and aft, close to the keel. Another rope is bent to the lower part of the scrubber, and hauled tight under the bottom, and made fast to the inside of the boat's main thwart, the upper part of the scrubber being even with the water's edge, at midships, on the other side. The people are then ordered to walk fore and aft with the rope to the scrubber, till it comes to the water's edge both ways, the boat moving the same way with the scrubber, the people in their helping, by pulling their hands against the ship's side, till the first depth is thought to be clean enough; then the people in the boat haul by their rope the scrubber a depth lower, by which, and the empty casks, it is confined and pressed to the bottom, at the different depths, till it is scrubbed down to the keel; and even the keel itself, by the rope going fore and aft under it.

**Bottom, Hagger.** A concave keel by which the sheer of the ship is apparently broken. Ships with long straight floors are most liable to this defect, either from accident, in taking the ground, improper lowage of the cargo, or otherwise. To prevent this, Mr. Hutchison advises to build ships with their floors and bottoms lengthways, to form an arch with the projecting part downwards, which will naturally not only contribute greatly to prevent their taking damage by their bottoms hogging and flaring upwards, either aground or afloat, but will, among other advantages, be a help to their falling, steering, steering, &c. This curved bottom is one of the principal properties of the life-boat.

**Bottom having several keels,** which, upon account of the very different form of the bottom from the common form, requires a particular description. This is a proposal of Thomas Gordon, esq. of Freemay, in his Principles of Naval Architecture," printed at Aberdeen in the year 1784, in order to unite the several properties of ships, which has hitherto been deemed impracticable; such as to make a ship fall well, keep little water, keep a good wind, &c. For this purpose the bottom, says Mr. Gordon, should be formed quite flat, and the sides made to ride perpendicular from it, without any curvature; which would not only render her more steady, as being more opposed to the water in rolling, but likewise more convenient for lowage, &c. and, while the simplicity of the form would contribute greatly to the calm and expedition with which she might be fabricated. Though diminishing the draught of water is, ceteris paribus, undoubtedly the most effectual method of augmenting the velocity with which vessels go before the wind, yet, as it proportionally diminishes their hold of the water, it renders them extremely liable to be driven to leeward, and altogether incapable of keeping a good wind. This defect may, however, be remedied, in a simple and effectual manner, by proportionally augmenting the depth of the keel, or, as large a keel would be inconvenient, on many accounts, proportionally increasing their number; as, in place of adding a keel eight feet deep to a vessel drawing fix feet water, to add to different parts of her flat bottom, which would be well adapted for receiving them, fix different keels of two feet deep each, at equal distances from each other, with proper intervals between, which would be found equally effectual for preventing these pernicious effects.

Thus then it appears, that a vessel drawing eight feet water only, keels and all, may be made to keep as good a wind, or be as little liable to be driven to leeward, as the sharpest built vessel of the same length drawing fourteen, nay twenty feet or upwards, if a few more keels are added, at the same time that the would be little more refilled in moving in the line of the keels, than a vessel drawing fix feet only. These keels, besides, would strengthen the vessel considerably, would render her more steady, and less liable to be overfed, and thereby enable her to carry more sail, &c. Vessels of this kind would likewise be well qualified for lying in docks and harbours when dry; and though the very quickest sailors of any, might be navigated in the shall-weat water; from which latter circumstance many important advantages would result, as running little danger from sand-banks, rocks, &c. being capable of riding in many bays, and entering many harbours, rivers, and creeks inaccessible to others, whether as an asylum, or for the purposes of trade or war; for bombarding, or making defences on an enemy's coast. By enlarging, perhaps doubling, the breadth of ships, and forming their bottoms flat, and well furnished with keels, they, in the first place, become much readier, so as to carry their guns well, roll little, if at all, and be enabled to carry greatly more sail, and that in a better direction; at the same time that they would be in no danger of being damaged or overfed, unless the masts were of a more extraordinary height indeed. Secondly, that they could carry more guns on their bow and stern, would have little or no occasion for ballast; and if any was used, would incur less danger upon its shifting. Thirdly, that there would be much more room upon deck, as well as accommodation below, the breadth being so much increased without any diminution of the height above the load water line, and without occasioning any necessary augmentation in the number of men for working the vessel, &c. These are the principal advantages of a ship of this construction; Mr. Gordon, however, proceeds to enumerate others.

**Bottom with sliding keels.** See Ship with sliding keels.

**Bottom, jogged,** the keel having a convex curvature. Long straight floored ships are most liable to be jogged, as well as hogged. This defect arises, in a great measure, from loading the ship with a weighty cargo, as lead, iron-ore, stones, &c. and flowing it in the main-body of the ship. This jogging of the bottom has, from experience, been found to inreduce the velocity; but, on the other hand, the ship is generally in a leaky condition. The principal method of remedying this defect, is to distribute the cargo more equably, so that the upward and downward pressufures may nearly counterbalance each other. This may be accomplished by means of a form-gage; for an account of which see that article.

**Bottom, to prevent from being worm-eaten.** One of the best remedies hitherto discovered for preventing worms from destroying the bottom of a ship, seems to be the coal-tar, invented by the earl of Dundonald, and manufactured at Cullors in Scotland. By many comparative trials, by sinking piles of wood for some considerable time in the water, some of which were payed with coal tar, and the others with common vegetable tar; it was found that, in those payed with coal-tar not the least appearance of the worm could be traced, the tar still remaining black and smooth upon the wood, which, on being cut, emitted a strong smell of the tar; whereas the other piles were observed to be full of worms. Some proofs of the efficacy of this tar will be inserted under the proper article.

A mixture of the oil of the cocoa-nut with lime has also been used to pay the bottoms of ships, in order to exclude worms.

**Bottom is also used to denote a whole ship, or rather vellal.**

In this sense we say, English bottoms, foreign bottoms. By the act of navigation, certain commodities imported in foreign bottoms, pay a duty called petty cullon; from which they are exempt, if imported in English bottoms.
Bottom is also used for what remains at the bottom of a vessel. In this sense, Paracelsus calls the sediment of urine, fundus urinae.

Bottom, or bottom, in the phyllo, a kind of iron slates, or ore, in the Staffordshire mines.

Bottom nails. See Nail.

Bottomry, in Navigation and Commerce, is a contract, in the nature of a mortgage of a ship, on which the owner borrows money, to enable him to fit out the ship, or to purchase a cargo for a voyage proposed; and pledges the keel or bottom of the ship (partem pro tolo), as a security for the re-payment. It is, moreover, stipulated, that if the ship be lost, in the course of the voyage, by any of the perils enumerated in the contract, the lender shall have his money; but if the ship should arrive in safety, then he shall receive back his principal, and also the interest agreed upon, generally called the "Marine Interest." However, this very may exceed the legal rate of interest. The pension of the borrower, as well as the ship and tackle, if they arrive safe, are answerable for the money lent, and the marine interest. But if the loan is not upon the ship, but upon the goods and merchandise, which must necessarily be sold or exchanged, in the course of the voyage, then the only borrower, personally, is bound to answer the contract; who is therefore, in this case, said to take up money at "Respondentia." Bottomry is a loan upon the ship, and respondetnia upon the goods. However, in the latter case, the personal responsibility of the borrower is not always the only security of the lender. If the money be lent for the outward and homeward voyage, the goods of the borrower on board, and the return for them, either in money, or in other goods, purchased with the proceeds of them, are liable to the lender. The money is to be repaid to the lender, with the marine interest, upon the safe arrival of the ship, in the one case, and of the goods, in the other. Such are the leading circumstances that discriminate these two contracts; in all other respects, they are nearly the same, and are governed by the same principles.

This kind of contract by bottomry, or rather respondetnia, was known to the Romans; they denominated it, "nauticum fenum," or "contractus trajecticis pecuniae," and it is treated of, both in the Digest, and the Code, "De nautico fenen." They called the sum lent, "pecunia trajectia," perhaps, because the borrower was accustomed to take the money on board with him in specie, in order to employ it in trade, in the course of the voyage, which money was to be repaid, after a fortunate voyage, with a stipulated interest, called "peculi premitium," or at a stipulated rate, called "peculi premia," or "nuphnum nautica," or "fura maritima," but it was lent on this condition, that if the ship should be lost, by the perils of the sea, in the course of the voyage, the lender should lose both principal and interest.

Bottomy essentially differs from a simple loan: because, in a loan, the money is at the risk of the borrower, and must be paid at all events; but in bottomy, it is at the risk of the lender during the voyage. Accordingly, upon a loan, the legal interest only can be reserved; whereas, upon bottomy, any interest may be legally reserved, which is agreed upon between the parties.

The contracts of bottomy and insurance resemble each other in several particulars: the lender and the insurer are alike liable to the perils of the sea; the former receives the marine interest, and the latter the premium, as the price of the risk, which of course varies, according to the length, and danger of the voyage. The perils to which both are exposed, commence and terminate together. The marine, and also the premium of insurance, are not due, if no risk be run, though this be prevented by the voluntary act of the borrower. These contracts, however, materially differ in a variety of respects. In bottomy, the lender furnishes the borrower with money, to purchase the goods that are risked; but an insurer furnishes no part of the property insured. The lender, in taking on himself the risk of the goods, does not contract any obligation to the borrower; a loss by the perils of the sea does not make him a debtor to the borrower, but only prevents the borrower from recovering his debt; whereas, in case of loss, the insurer becomes a debtor to the insured, to the amount of such loss, not exceeding the sum insured. In case of shipwreck, the lender, by the general law, has a lien on the effects saved, to the extent of the sum lent, and the marine interest, to the exclusion of the borrower; whereas, an insured person has an interest in the effects saved, in common with the insurer, so far as he was uninsured. The lender is not liable for particular average; but the insurer is liable for this, unless he be exempt by express stipulation. By the clause, "free of average," insurers may be exempted from general average; but in a case where the lender is liable by law, to general average, such a clause would be illegal and void. If the voyage be divisible into several distinct risks, the premium of insurance may be apportioned to each, and there may be a return for such as have not been begun; but in bottomy, if the risks be once commenced, and no loss happen, the marine interest must be paid entire.

This contract is eminently useful in a country, where persons in trade have not capital sufficient to carry on their foreign commerce; and by means of it, a kind of partnership is formed between the lender and the borrower, in which one supplies money, and the other skill, experience, and a spirit of adventure; in which one risks the perils of the sea, and the other compensates him by a share of the profits of the adventure. But in other respects this contract bears no resemblance to a partnership, as it has no community of capital nor any community of loss.

Former contracts of this kind were more common in this country than they are now; because the immense capitals engaged in every branch of commerce, superceded the necessity of such loans. On this account money is now seldom borrowed in this manner, unless it be by the makers of foreign ships, who, being in our ports, need pecunia affiniae to aid, to pay their men, to purchase provisions, &c., or by officers and others belonging to ships engaged in long voyages, who are allowed to trade to a certain extent with the prospect of great profit, but without capitals of their own; in this case, though it now seldom occurs in this country, they take up money on respondetnia to make their investments.

This contract, required to be always in writing, is sometimes made in the form of a deed poll, called a "bill of bottomy," executed by the borrower; sometimes in the form of a bond or obligation, with a penalty. But whatever may be its form, it must contain the names of the lender and the borrower, those of the ship and master; the sum lent, with the stipulated marine interest; the voyage proposed, with the duration of the risk; and it must also specify, whether the money be lent on the ship, or on the goods on board, or on both; together with any other stipulation agreed by the parties to be introduced into the contract. It is also essential to this contract, that the marine interest be expressly reserved in it.

Concerning the parties in this contract we observe, that any person, who is capable of contract, may lend money on bottomy. Any person, who has a vested assignable property
property in a ship or cargo, may borrow money on bottomry or
responsibility, to the extent of his interest. The contract
still remains to have originated from the practice of permitting
the master of a ship, in a foreign country, to hypothecate the
ship, in cases of necessity, for the purpose of raising money
to reit; and indeed, it is necessary for the safety of the
ship, and in order to ensure the success of the voyage, that
the master, in the absence of the owners, should have this
power, implied by the marine law in his appointment.
However, with respect to the purposes of this contract, he
possesses no such power, till he becomes actually master, or as
far as this branch is concerned, till after he sets sail. Hence,
if he borrows money on bottomry in the place where the
owners reside, without their express authority, the act can
only concern himself, and affect his own interest on board.
In a foreign country, and in the absence of the owners, the
master cannot raise any money on bottomry for any debt of
his own, but merely for the use of the ship, in cases of
necessity; and this necessity must appear in the written contract,
or else the lender will have neither a lien on the ship, nor an
action against the owners; the master alone being liable.
Nevertheless the lender is not bound to look to the application
of the money, but may have his action against the owners
and his lien on the ship, without being obliged to prove that
the money was properly applied, unless he be an accomplice
in any fraudulent misapplication of it; in which case the owners
may impeach the contract upon that ground.
As an insurance upon any trade with the enemies of the
state in time of war is void, the lending of money upon
bottomry is illegal.

As to the articles hypothecated, they may be the body,
tackle, furniture, and provisions of the ship, the whole or
any part of the cargo, or both ship and cargo. On respons-
dentia, indeed, money may be borrowed without hypothe-
cating any thing; and the borrower may take money on
board with him in specie, for the purpose of employing it
in trade, during the course of the voyage. But it is essen-
tial to the nature of the contract, that the money lent, or
some equivalent to it, be exposed to the perils of the sea, at
the risk of the lender. The same reasons of policy which
forbid gaming insurances, equally apply to wagers in the
form of bottomry loans. The mischief likely to result from
this practice have been restrained by our legislature.
Accordingly the statute 16 Geo. II. c. 8. recited and made
perpetual by 22 C. II. c. 11. § 2, after reciting "that
masters and owners of ships, having inferred, or taken upon
bottomry, greater sums of money than the value of their
adventure, do willfully call away, burn, or otherwise destroy
the ship under their charge, to the great loss of the mer-
chants and owners," enacted, for future prevention of the
same, "that if any captain, master, mariner, or other
officer belonging to any ship, shall willfully call away, burn,
or otherwise destroy the ship to which he belongs, or
procur enclose to be done, he shall suffer death as a felon."
When this species of gaming came into use in England, and
performs borrowed money "on the voyage," as it was called,
without any interest in the ship or cargo, which they could
hypothecate, the statute 16 Geo. II. c. 37. § 5, directed,
that upon East India voyages the money should only be lent
on the ship or goods on board, with benefit of salvage to
the lender. As many British subjects, in the reign of
George I. fitted out ships, and clandestinely traded to the
East Indies under colour of foreign commissions, the statute
7 Geo. I. c. 21. § 2, made to restrain such practices, and
to protect the monopoly of the East India company, de-
clares, "that all contracts and agreements, made or entered
into by any of his majesty's subjects, or any person or per-
sons in trust for them, for the loan of any money, by way of
bottomry, on any ship or ships in the service of foreigners,
and bound to, or designed to trade in, the East Indies, shall
be void." This statute expressly, and in the most unquali-
tied terms, restrains the lending of money on bottomry, on
any ship or ships in the service of foreigners. But whether
a ship, the property of British subjects, fitted out by them,
and laden with their merchandise, can be said to be in the
service of foreigners, merely because he is furnished with a
commission from a foreign state, is a question upon which
there has not yet been any judicial decision. Freight may
be both incurred and hypothecated upon a bottomry con-
tract. Seamen may borrow money on any goods which they
have on board; but with respect to their wages, they can
never injure them nor borrow money upon them.

As to the rate of marine interest, Julihamian, who, in ordi-
inary cafes prohibited the cestextum, or one per cent. per
month, or 12 per cent. per annum, allowed it in this contract,
and forbade any higher interest. But in modern times,
when commerce is carried on between countries remote from
one another, it is impossible to fix any precise standard by
which this may be regulated. The legality of marine inter-
est, however exorbitant it may be, is allowed by course both
of law and equity; nor can it be deemed usury, provided the
money lent be "bona fide put in" risk. This interest com-
ences with the risk, and also terminates with it. But if
the time of the contract be a fixed period at a stipulated rate,
and the voyage be performed within that period, the marine
interest for the whole period will be due; but if the voyage
exceed that period, the risk of the lender will cease, and
the debt becomes obloque, though the voyage should not be
ended. The risk also will cease, if the ship has been pre-
vented by unavoidable accident from performing her voyage
within the time limited. Upon the cessation of the sea-risk,
if the borrower delays the payment, common interest begins
to run on the principal, exclusive of the marine interest,
"ad plus juris," without any demand.

The perils of the sea, which constitute the risk of the
lender, comprehend all those accidents and misfortunes to
which ships at sea are liable, and which no human foresight
or precaution can prevent. Accordingly contracts on bot-
tomy and responsion express expressly provide, that "if, in
the course of the voyage, and within the time prescribed,
by such loss of the ship by fire, enemies, men of war, or
any other casualties, shall unavoidably happen," the bond
shall be void, and the borrower discharged; so that the perils
are nearly the same with those to which the underwriters
upon a policy of insurance are liable. A loss by pirates, though
not usually expressed in securities of this kind, is included
in the risk. Nothing, however, but a total loss, in a case of insurance, can
discharge the borrower; and the obligation remains, notwithstanding
any damage which the goods may suffer by the perils of the
sea; nor is there any deduction on account of such
damage. In this respect the lender on bottomry is in a better
situation than an insuror, who is obliged to indemnify the
injured, to the extent of the sums, inured, from all damage
arising from any of the perils against which the in-
insurance is made. No capture or detention, that does not
amount to a total loss, in a case of insurance, can
discharge the borrower. Lord Mansfield, in delivering the opinion
of the court, in a case of this kind, said, "It is clear, that,
by the law of England, upon a bottomry contract, there is
neither average nor salvage." But the lender is not liable
for losses proceeding from the internal defect of the thing
that is hypothecated, unless by express stipulation, such as the
ship's not being sea-worthy, and perishing by age, rotten-
nets, or any such cause, or the goods perishing of themselves,
liquors
liquors running out through the defect of the casks, dry goods heating and fermenting by length of time, &c.; nor is the lender liable for the act of the owners or master of a ship, as if the voyage be changed by order of the owners, or if a loss happen by the barrauy of the master, or by the misconduct of the merchant. In these cases the borrower is not discharged, except by express stipulation, which shall render the lender liable for every loss not occasioned by the act of the borrower. Nor is the lender liable for any loss by smuggling, which occasions a forfeiture of the ship, and a confiscation of the goods, unless he was privy to it. In England, if the money were lent to be employed in a trade prohibited by law, the contract would be void; and the sum lent could never be recovered from the borrower, even though no loss had happened. The lender, like an insurer, is only answerable for losses that happen within the time and place of the risk, specified in the contract; and, therefore, if the ship deviate from the voyage, without necessity, neither the lender nor the insurer will be liable to any loss that may afterwards happen. (See Insurance.) If the ship be pledged into the King's service, this will excuse a deviation; but if the borrower allege a deviation, this must be explicitly denied. A change of the ship, without necessity, discharges the lender. Money is generally lent for the whole voyage, outward and homeward; or for either separately; or for a limited time. The contract usually specifies the commencement and end of the risk; and in any misfortune, happening before or after, is at the risk of the borrower. If the voyage be described in the bond, but the time of the commencement and end of the risk be not specified, the risk, as to the ship, shall commence from the time of her setting sail, and continue till the anchors in safety at her port of destination; and as to goods, from the time of their being shipped till they are safely landed. When the loan upon goods is both for the outward and homeward voyages, the lender continues liable to the risk, during the homeward voyage, on the goods by which those have been replaced on which the money was lent.

Between insurance and bottomry there is this difference; that an insurer, independently of previous stipulation to the contrary, is liable to the charge of particular average, whereas, a lender without express stipulation is exempt from it: but, by the general law of merchants, in case of gross or general average, the lender shall contribute to discharge the borrower; and it is maintained by some writers, that the nature and object of the bottomry contracts seem to require, that the lender should be liable for general average. Lord Mansfield, however, as we have already observed, is of opinion, that, by the law of England, there is neither average nor salvage upon such contracts; and in this opinion Lord Kenyon concurs. But Sir John Marshall observes, that he has not been able to discover any decided case, or authority in the law, to warrant this doctrine. He also differs from another learned writer, (Parker,) who thinks, that the statute 19 Geo. II. c. 37, § 5, provides, that the benefit of salvage shall be allowed to the lender on East India voyages, conclusively proves, that there was neither average nor salvage upon bottomry contracts at common law. Mr. Marshall is of opinion, that this statute has not introduced any new principle into the law, either of insurance or bottomry contracts; but merely reformed them to their original and proper use, from which a spirit of gaming had perverted them. Nor can he admit, that, because the statute gives the benefit of salvage to the lender upon East India voyages, he was not therefore entitled to this at common law. But admitting this to be the case, does it hence follow, that he was not liable to general average at common law? The statute makes no mention of general average. It has been determined, however, that if an insurance be made in England, upon a bottomry interest, upon a foreign ship, and it appears that the lender is liable, by the law of the country to which the ship belongs, to contribute to a general average, the under-writers upon the policy will be liable for such contribution.

As the statute 19 Geo. II. c. 178 gives the benefit of salvage to lenders on bottomry, and bottomteria securities, restricted to East India voyages, it has been a subject of inquiry, whether, before that act, the lender upon any voyage was entitled to the benefit of salvage. By the general law of merchants, the event upon which the borrower is discharged, is the total loss of the ship or goods, upon which the money is lent, in consequence of the perils mentioned in the contract. The borrower is bound to pay principal and marine interest, provided the ship or goods, on which the money is lent, arrive at its defined port, however damaged or depreciated by the perils of the sea; nevertheless, if part should be captured or lost, the borrower is only bound to pay in proportion to what remains. If the ship be lost, and the goods saved, the contract remains in force, and the borrower becomes liable, provided another ship can be procured to convey the goods to the place of their destination. But for the expense of this other vessel, the lender is accountable; and if no other can be procured, the borrower will be discharged, on accounting to the lender for the proceeds of the goods saved. Blackett. Comm. vol. ii. p. 457. Marshall on the law of Insurance, vol. ii. b. ii. p. 632.

**Bottomry, bill of,** is a contract between two persons, the one borrowing, and the other lending a sum of money, by which the borrower, setting forth his intention to make a voyage in a certain ship therein named, acknowledges the receipt of a certain sum of money from the lender; on this condition, that if the ship does happen to perform her voyage, without any disaster by enemies or otherwise, then he is to restore that sum to the lender, with an additional sum, therein expressed, for the interest, within a certain time after his return; but that if the ship be lost, or taken by enemies or pirates, then the peron of the borrower to be for ever discharged, and the lender to bear the loss. For the form of such a bill by deed, and when the ship is to go to several ports, see Marshall's Treatise on the Law of Insurance, vol. ii. Appendix, p. 718. See Bottomry.

**Bottomi, ALBERTUS, in Biography, of an illustrious family, originally from Parma, was born at Padua, in the early part of the 16th century. After passing through the usual school education, in which he distinguished himself, he applied to the study of medicine, took the degree of Doctor, and was soon after advanced to the chair of professor in that faculty, which he filled many years, with singular credit. He died at a very advanced age, in 1556, leaving behind him, Haller says, an immense property. He published, "De vita conferenda," Patav. 1583. 4to. "De morbis malaebribus," 1585, reprinted in the collections of Bohnen and of Spachius. "Methodi medicinales duae, in quibus legitima medendi ratio traditur." Francof. 1595. 8vo. For the titles of other publications by this author, see Haller Bib. Med. Eloy. Diet. Hist.**
BOTTONI, Dominique, the son of Nicholas Bottoni, a celebrated philosopher and physician of Lentini, in Sicily, born the 6th of October 1641, received his education under Peter Castello. In 1674, he was admitted to the degree of doctor in medicine, and was soon after made physician to the marquis De Villa Franca, viceroy of Sicily, physician to the royal hospital of Messina, and superintendent of the physicians there, with a pension of 50 crowns per month. He afterwards enjoyed a similar situation under the viceroy of Naples. In 1677, he was made corresponding or honorary member of the Royal Society of London, to which he had previously sent his "Ideahistorico-phylicae de magno truncatione terretur morte," which is published in their transactions. We have also by this writer "Pyrologia topographica, id est, de igne dissertatio, juxta loca, cum figuris descriptione," Neapol., 1692, 4to. "Febris rheumaticae malignae, historia medica," Messina, 1712, 8vo. "Prefere fulcurti contro il contagio malare," Messina, 1724, 4to. He died about the year 1731. Eloy. Dict. Hist.

BOTTINO, in Geography, a town of Italy, in the duchy of Parma; 9 miles S. E. of Parma.

BOTTYS, in Botany. See CHENOPODIUM.

BOTTYSIS. See BYSSUS.

BOTTIS, in Zoology, bats and horsecorns. See OESTRUS genus, and species EQVI, BOTIS, HEMORRHODALIS, VETERINUS, OVIS. There are a peculiar kind of grub, found not unfrequently in the stomach of the horse, of a cylindrical figure, pointed at one extremity, and obtuse at the other, and bent every where with numerous rigid spines. There are at least two different kinds inhabiting the stomach of the horse, which at length produce, on their arriving at maturity, a two-winged insect of the fly kind.

Besides those of the horse, there are others of a distinct kind, but belonging to the same family, which live in their grub state under the skin of the backs of oxen, the deer, and the rein-deer; and others, again, occupy for a dwelling the frontal cavities of the head of the sheep, and cells at the base of the horns; and others inhabit also the same situations in the deer. They exit on the pus and lymph they create on these membranes by their irritation; and when full fed, they fall to the earth, and undergo the usual transformations of other insects.

The inaccessible situations of these animals in their larva state, and the impossibility of raising them out of these situations, has been the cause, probably, of their history having so long remained in the greatest obscurity.

They have been generally considered by the vulgar as true worms of the intestines, and similar in their origin to other worms of the intestinal canal, than which nothing can be more untrue.

The following is a concise detail of what is at present known respecting them; the account purporting nearly the order in which the discoveries have been made. The first who laboured to unveil the hidden and extraordinary economy of these animals was Vallisneri, an Italian of Padua, and the pupil of Malpighi. Before his time, the most absurd notions prevailed respecting them. The Romans, who had seen them hanging to the extremity of the reftum of the horse, believed them to be pieces of the intestine itself torn away by the worms and animals existing within them; and Vegetius has thus described them: "Hujusmodi passiones figuram fill (morbus coringinum, cum inventur humor in ano fabulous simili: eit namque funis ex illis vulneribus quae defilios intrificus fecerunt." Vallisneri, in his first essay, decribed the changes of the ossus buvis; giving indifferent figures of them, and tracing them from the back of the ox to the perfect state of a fly. This essay was published soon after the year 1700. Indeed, all that is known respecting them was discovered within the limits of the last century.

The next essay develops the history of the ossus buvis, or of that insect which is found infesting the nostrils and cavities of the face of the sheep; and in a subsequent volume (ed. Venezia, vol. ii. p. 163.), he published his observations on the botis of the horse. He was embarrassed by the great difference he found in the appearance of the botis of the horse; and hardly knew whether to attribute it to a difference of sex, or feeding, or of their being two different kinds, which subsequent discoveries have fully confirmed to be the case. His figures of them are very obscure, and ill expressed, so much so that it requires an eye acquainted with the appearance of these insects, at all to identify them. They are, however, without doubt, designed to represent the oss. buvis and ae. hemorroidalis.

The next labourer in this obscure path of natural history, was the celebrated Renemur, vol. iv. p. 508. of the "Memoires pour l'Histoire des Insectes." He repeated all the experiments of Vallisneri respecting the above three species, and fully confirmed all he had said respecting them; accompanying his account with ample details of their appearance and habits, and their descriptions with much better representations of them than his predecessor. Madame de Breauté, an abbess, in whose pages he sufficiently enlarges, at length furnished him with an opportunity of getting the larvae of the ae. buvis from some of the cows belonging to her convent; and on them he made his observations. Among other remarks, in this interesting memoir, he mentions, that by a singular chance he observed a line of small air-bubbles arranged along the side of the insect, and placed opposite to the spiracles, being entangled in the pus, which every where covered its surface, and corresponding in number and position to these openings; which would seem to prove that these spiracles are designed, not for the admission of air, as is generally conceived, but in reality for its exit; the air being received by a cartilaginous tube opening at one end of the insect, viz. that extremity which is placed next the external opening of the skin, and which becomes the tail part of the future insect, the larva being, in reality, inverted in the abcefs. He very candidly observes, however, that he could not force any air through these apertures, by holding the larva under water, and compressing it with the fingers.

He also noticed, that the opening in the skin, through which the larva breathes and evacuates, is considerably enlarged about the period of its exit, by the animal raising itself in the abcefs, and presssing against it; and after some days of this discipline, the aperture being enlarged, he works himself through by successive efforts, and falls to the ground. This excellent observer particularly mentions also their launching themselves from the back of the animal at an early hour of the morning in preference to any other part of the day.

The perfect insect, he observes, could not be induced to take any kind of food or nourishment, though he presented it with a great variety; a circumstance, indeed, that is not so much to be wondered at, since a large share of the insect world appears to pass the last stage of their lives, not only without food, but without organs for receiving it. Generation would appear to be the leading purpose of this stage of their existence.

It is particularly worthy of remark, as it may be the means of exciting those who may be possessed of the opportunity to further research, to make mention of the recitals given by this celebrated observer in another memoir (vol. v. p. 66.).
p. 66.), where he describes the larvae found in the cavities of the face of the flag; and it is evident that they are widely different from those inhabiting the same place in the sheep, or indeed from any other species at present known. He did not succeed in his attempts to breed the fly from these larvae; and we are therefore in the dark respecting this insect: and, unless it be the *osiris nagla* of Limnaeus, which, on several accounts, it does not appear probable that it is, it must be a new species.

Reaumur seems fully to have believed the absurd doctrine of Vallisneri, that the parent fly entered actually into the nostrils and faces to deposit its eggs, of which we shall have occasion to speak hereafter more particularly.

Next to the works of Reaumur, in this line of research, follow the writings of baron De Geer, who has followed and confirmed the discoveries of Vallisneri and Reaumur, without adding any thing of importance to their observations. He seems also to entertain, without hesitation, the opinion of Vallisneri, that the *osiris eqvi* enters the rectum to deposit its eggs. We find, however, that he was aware that Limnaeus, under the title *os. bovis*, had confounded two distinct species.

He also erroneously appears to have considered the *os. bovis* and *hemorrhoidalis* as one species, being deceived by the circumstance of their description, which, as to colours, is very similar.

Limnaeus next, by the extraordinary conciseness of his writings, seemed to flatten the enormous details in the natural historians of the preceding age, whose works were rapidly becoming too voluminous even for perusal. On most occasions he brought what was important to be known within the narrow limits of a few Latin phrases well expressed. He marshalled, for the first time, the scattered members of this extraordinary race under the common family title of *osiris*. He, however, was only acquainted with five species, all European; *bovis, tauri, hemorrhoidalis, nagla*, and *equis*. His specific characters are very appropriate; and we shall have occasion, in enumerating the species at present known, at the conclusion of this general account, to give them nearly as he had done.

Fabricius next added to this family three more species; the *os. bucatus, os. pecuvi, os. trunpa*. Describing from cabinets, without entering into their history, has been the source of the greatest confusion. His *os. vituli* is a mere variety of the *eqvi*; and the Limnaeus *bovis*, which is the commonest species, seems to be altogether omitted in his enumeration.

Gmelin next occurs; and, collating from all quarters, without any acquaintance with the animals themselves, has added three more species, which he believes to be new, from the works of professor Pallas. These are indicated by the names of *antiopha,* *fissiculata,* and *beninisi.*

The European species, especially those that infest our cattle, horses, and sheep, in Great Britain, being the most interesting, we shall proceed to illustrate the most curious circumstances of their history, and barely mention the names of the rest, and the animals and country they inhabit.

Limnaeus, through the whole course of his life, had never met with the true fly produced by the ox-bot, but had constantly taken a very dilimiliar one which infests the horse for it. Indeed, this insect is truly rare. Vallisneri had never seen but one, and that was mutilated. Reaumur, with uncommon pains, had raised two or three to the perfect state of a fly, and informs us, that to effect his purpose more completely, he employed a cow-herd to collect him, promising him the price of half a day's labour for each he should bring; but out of thirty procured by this means not one lived. The cow-keeper, no doubt, too eager for his reward, had pressed them with his fingers from their situations under the skin, before they were perfectly ripe and full fed; in which case they would certainly all perish, even though within a day of this period.

There is only one good specimen of this insect that we know of in England, even at this time, which is in the collection of Mr. Thomas Allen, and was taken from the back of a cow near Hampton court. By rare chance we took another of these in the Alps, between Salanche and Domeville, after observing it to settle on some dung that lay in the road where some cattle had recently pasted, and which, on our return through Germany, we presented to the venerable and very respectable professor D. Schreber of Erlang, the intimate friend and pupil of Limnaeus, who, we were privileged to find, till that time had not seen it.

Nothing is, however, more easy than to procure these insects by the simple means we formerly tided, and the details of which may not be unacceptable to the public, especially to those who wish to see them with curiosity, or from a desire to procure them for their cabinets. During the latter months of the summer, at a time when the animals are most frequently found of a mature age, and ready to quit their habitations, which is discoverable by the superior size of the tumor, and by the increased diameter of the external opening in the skin; selecting such as these, the hairs are to be removed with a pair of scissors to some little distance from the tumor, and a piece of leather thickly spread with pitch, through the centre of which a hole is cut, and into this is inserted a small gauze poultice or bag; the pitched leather is now placed on the skin, to which it readily adheres, and the insect, when it falls from the abscess, is caught by the bag, where, as it cannot escape, it remains till removed by the person who looks after them. Three larvae procured in this way, produced two flies in very good condition; one fled away during some experiments that we were making with it; the other was given to Mr. Allen, as above stated, after drawings had been made of it for the use of the Linnaean society.

We are now under the necessity of advertsing to a small communication sent to the Linnaean society by the writer of this article, in the year 1756, and published in the third volume of their Transactions, p. 289, as this memoir contains some farther observations and discoveries than the which had fallen within the notice of Vallisneri and Reaumur, we shall briefly extract from them what is new or useful.

Page 291. "The larva of the *osiris bovis* is very unlike the other larvae of this genus, so much so that I did not imagine, till I had procured the fly from it, that it was the larva of an *osiris*. It neither possesses the aculeus, the lips, or the marginal fæces, which are the prominent characters of the larva of the *os. eqvi* and *hemorrhoidalis*. When young, the larva is smooth, white, and transparent; as it enlarges, it becomes brown; and about the time it is fully grown, it is totally of a deep brown colour, having numerous dots on its surface, disposed in transverse interrupted lines paling round the segments. Two distinct and different kinds of lines are seen on each segment; the uppermost of these is narrower, and consists of larger dots. Underneath these there is a broader line, and the dots smaller. The first are easily seen, by using the lens, to be real hooks bent upwards, or towards the tail of the insect; and on examining the broader line of small dots, with a tolerably powerful magnifier, they were found also to be real hooks turned in an opposite direction to the former, that is, downwards in the abscess, and towards the head of the insect. This singular arrangement of hooks round the body of the larva, in this instance, serve the purpose of legs in other larvae, enabling it to move about;
in the abcess at pleasure, and to crawl out of it when ripe, and renders the use of the tentacles, observable at the small end in the other species, not necessary in this.

"These hooks, being erected by the muscles of the skin, according to the series of them used by the larva, it appears to be raised or depressed in the abcesses; and by this motion, and the consequent irritation, a more or less copious secretion of pus is produced for the suffusion of the larva. The chrysalis continues in that state from about the latter end of June till about the middle of August, when the fly, forcing open a very singular margined triangular lid, or operculum, at the small end, made its appearance.

"Although its effects on the cattle are so often remarked, yet the fly itself is rarely seen or taken, as the attempt would be attended with considerable danger, if in pursuit of the oxen. The pain it inflicts in depositing its eggs, appears to be very severe. When one of the cattle is attacked by this fly, it is easily known by the extreme terror and agitation of the whole herd. The unfortunate object of the attack runs below from among them to some dilated part of the heath, or the nearest water. The tail, from the severity of the pain, is held with a tremulous motion swinging from the body; and the head and neck stretched out to the utmost. The rhythmic, from fear, generally follow to the water, or dipper to different parts of the field.

"When the oxen are yoked to the plough, the attack of this fly is attended with real danger to the drivers; since they become perfectly uncontrollable, and will often run with the plough directly forwards through the hedges, or whatever obstructs their way.

"There is provided, on this account, to many ploughs a contrivance immediately to let them at liberty. The singular feat attending the attack of this fly on the herd, has often been the subject of poetical description; no one has, however, more naturally or elegantly delineated it than the bard of Mantua:

—Eli lucos silari circa iliecibuseque virentem
Plurimus alburnum volitant cui nomen abilo
Romanum ed, oeffron Graii vertere vocantes:
Asper, acerba, fonans: quo tota exterrita sylvis
Diffigiunt armenta: furit mugitibus atber
Concussus, sylvaeque, et sicci ripa Tanagri.

Georg. lib. iii. ver. 146—151.

"The strongest and healthiest beasts seem constantly to be preferred by this fly; and theirpossessing them in their backs is considered as a criterion of goodliness with the dealers in cattle; and the tanners observe, that their beast and strongest hides have the greatest number of bot-holes in them.

"The whole of this family of insects appear to have a strong dislike to moisture; since the animals find a secure refuge, when they get into a pond or brook, where the other flies which annoy them follow without hesitation, but the oeffri rarely or never; and during very cold, rainy, or windy weather, they are not to be seen.

"Among the country-people, the larvae of this insect are commonly known by the name of warbles, wormuls, or wormuls, or more properly bots."

We now transcribe from the above memoir which is most worthy of notice respecting the oeffrus equi, or large horse-bot.

"These larvae attach themselves to every part of the fo- mach, but are in general most numerous about the pylorus, and are sometimes, though much less frequently, found in the intestines. They hang most commonly in clusters; being fixed by the small end to the inner membrane of the food, where they adhere by means of two small hooks or tentacula. When removed from the stomach, they will attach them-

elves to any loose membrane, and even to the skin of the hand; for this purpose, they draw back their hooks almost entirely within the skin, till the two points of these hooks come close to each other; they then prefert them to the membrane, and keeping them parallel till it is pierced through, they expand them in a lateral direction; and afterwards, by bringing the points downwards, or towards themselves, they include a sufficient piece of the membrane with each hook, and thus remain firmly fixed, for any length of time, without any further exertion from the animal.

"All those bots which feed on the mucous membranes lining the canals of the body, are provided with these tentacula; whilst those which inhabit the skin, will be found universally without them. The oeffri of the sheep has them also, but uses them only in passing over the membranes on which it lives, making them a fixed point to which it draws up its body, and thus secures its passage along those smooth and lubricated surfaces of the nostrils.

"The larva of this bot, when very young, is of a cylindrical figure, of a pellicul rubra, and appears without spines to the segments. As it acquires an increase of size, it affumes a more flattened appearance, becomes whiter; and the spines, which are tiny with black, become very visible, being placed in double lines, and directed towards the tail, or truncated end of the larva.

"Their food is probably the chyle, which, being nearly pure aliment, may go almost wholly to the composition of their bodies without any excrements besides; though, on digestion, the intestines is found to contain a yellow or greenish matter, which is derived from the colour of the food, and shews that the chyle, as they receive it, is not perfectly pure.

"The swarms of their growth, and the purity of their food, must occasion what they receive in a given time to be proportionally small; for whereas probably arises the extreme difficulty there is found in destroying them by any medicine or poison thrown into the stomach. Opium, tobacco, or the drastic purgatives, which often bring away in abundance, the common worms of the intestines, produce little or no effect on these.

"On opening the body of the bot, and removing the gelatinous matter, the air tubes are seen, and seem of a splendid silvery colour, glittering very beautifully, as though they were injected with the purest mercury; they remain distended by their own inherent elasticity, and are filled with air to their minutest ramifications.

"Respiration appears to be the office of these air-canals, which are the lungs of the larva; and, confirmed in this point of view, they are much larger than the respiratory organs of any other animal, which is the more extraordinary, if the respiration of animals be for the production of animal heat; this being unnecessary to larvae, that are supplied so abundantly with it from the high temperature of their residence in the living stomach. Nor can these organs be formed for the purposes of the future insect, since they cannot be detected in either the chrysalis or fly. One should almost, from this circumstance, be led to suspect that the respiration of animals was more intimately connected with the reception of food, and the converting it into living matter than any other desig. Though it would also appear, that the impurity of the air in the stomach, and its casual supply might render these larger reservoirs necessary.

"The larvae of the large horse-bot attain their full growth about the latter end of May, and are coming from the horse from this time to the latter end of June, or sometimes later. On dropping to the ground, they find out some
some convenient retreat, and change to the chrysalis; and in about six or seven weeks, the fly appears; for the description of which, see the conclusion.

The mode pursued by the parent fly, in order to obtain for its young a situation in the thorax of the horfe, is truly singular, and is effected in the following manner. When the female has been impregnated, and the eggs are sufficiently matured, the seeds among the horfes a subje& for her purpose; and advancing on the wing, the holds her body nearly upright in the air, and her tail, which is lengthened for the purpose, curved inwards and upwards. In this way, the approaches the part where the design to deposit the egg; and suspending herself for a few seconds before it, suddenly darts upon it, and leaves the egg adhering to the hair; the hardly appears to settle, but merely touches the hair with the egg held out on the projected point of the abdomen. The egg is made to adhere by means of a glutinous liquor secreted with it. She then leaves the horfe at a small distance, and prepares a second egg; and poizing herself before the part, deposits it in the fame way. The liquor dries; the egg becomes firmly glued to the hair; and this process is repeated by various flies, till four or five hundred eggs are sometimes placed on one horfe.

The horfes, when they become affected by this fly, and find it does them no injury, as the tabanids and conopids, by sucking their blood, hardly regard it, and do not appear at all aware of its infective object.

The inside of the knee is the part on which these flies are most fond of depositing their eggs, and, next to this, on the side and back part of the shoulder, and lastly on the extreme ends of the hairs of the mane. But it is a fact worthy of attention, that the fly does not place them promiscuously about the body, but constantly on those parts which are most liable to be licked with the tongue; and the ova, therefore, are sporadically placed within its reach. Whether this be an act of reason or instinct, it is certainly a very remarkable one; and one should suspect, if it was the latter, it ought to direct the performance of the act in one way only.

Whichever of these it may be, it is, without doubt, one of the strongest examples of pure instinct, or of the most circuitous reasoning, any insect is capable of. The eggs thus deposited, I at first supposed were loosed from the hairs by the moisture of the tongue, aided by its roughness, and were conveyed in this way to the thorax, where they were hatched: but on more minute search, I do not find this to be the case, or at least only by accident; for when they have remained on the hairs four or five days, they become ripe, after which time the slightest application of warmth and moisture is sufficient to bring forth in an instant the latent larva. At this time, if the tongue of the horfe touches the egg, its operculum is thrown open, and a small active worm is produced, which readily adheres to the moist surface of the tongue, and is from thence conveyed with the food to the thorax.

I have often clipped off with a pair of scissors some hairs, with the eggs on them, from the horfe; and on placing them in the hand moistened with salvia, they have hatched in a few seconds. At other times, when not perfectly ripe, the larva would not appear, though held in the hand, under the same circumstances, for several hours; a sufficient proof that the eggs themselves are not conveyed to the thorax.

It is fortunate for the animals infested by these insects, that their numbers are limited and kept within bounds, by the hazards they are exposed to. I should suspect near a hundred are lost for one that arrives at the perfect state of a fly. The eggs, in the first place, when ripe, often hatch of themselves; and the larva, without a midge, crawls about till it dies; others are subject to be washed off by the water, or are hatched by the sun and moisture thus applied together; when in the month of the animal, they have the dreadeful ordure of the teeh and mastication to pass through; and on their arrival at the thorax, they may pass, mixed with the mafs of food, into the intestines; and when fully grown, on dropping from the anus to the ground, a high road or water may receive them; if on the common, they are in danger of being crushed to death, or of being picked up by birds, which so cautiously for food attend the footsteps of the cattle. Such are the contingencies, by which nature has prevented the too great increase of their numbers, and the total destruction of the animals they feed upon.

I have once seen the larve of this ophitus in the thorax of an as. Indeed, there is little reason to doubt their existence in the thorax of all this tribe of animals.

The perfect fly but ill sustains the changes of weather; and cold and moisture in any considerable degree would probably be fatal to it. Thrice flies never pursue the horfe into the water; this aversion, I imagine, arises from the chillness of the atmosphere over that element, which is probably felt more exquisitely by them, than by other flies, from the high temperature they had been exposed to during their larva state. The heat of the thorax of the horfe is much greater than that of the warmest climates; being about 102° of Fahrenheit; and in their fly state, they are only exposed to 60°, or from that to about 85°, in very warm weather. Such a change, if suddenly applied, would in all probability be fatal to them; but they are prepared for it, by suffering its first effects in the quiescent and less sensible state of a chrysalis. I have often seen this fly in cloudy weather, and during the night time, fold itself up with the head and tail nearly in contact, and lying apparently in a torpid state, though in the middle of the summer.

I never observed these bots hanging to the extremity of the rectum, previous to quitting it, as the hemorrhoids, or small horfe-bots, are seen to do.

Whether these bots can at all exist in the thorax of a carnivorous animal, I am not at allcen. I gave upwards of a hundred eggs, proved by trials to be ripe, and containing a living caterpillar, to a cat in milk at various times; and on destroying her, at the end of two months after the first portion had been given, I could discover no traces of them in the thorax or intestines.

I gave six of the larve of the large horfe-bot, recently taken from a dead horfe's thorax, and perfectly alive, to another horfe, in a ball made of meal, in the centre of which they were enclosed: their effects on the thorax were not noticeable by any external indications; 27 of them were the next day exhibited to a horfe with the farcy, without their producing any sensible effect.

Of the ophitus hemorrhoidalis, or small horfe-bot. The larva, or grub, producing this infest, is in most respects like the former, occupying the same situation also in the thorax of the horfe: it is easily distinguished by its smaller size, and being nearly or quite destitute of spines, on leaving the rectum; when full grown, it assumes a reddish green colour, and in about two days becomes a chrysalis.

None of the larve of this family of insects appear to change their skin, which at length becomes also the shell of the chrysalis: when squeezed, they forcibly contract themselves into a smaller space, and become very hard. It is probable they in this way refill the violent pressure they must occasionally sustain from the weight of the food, and the actions of the thorax, and in passing through the intestines and the sphenicter ani.
After remaining in the chrysalis state about two months, the fly appears. See the description at the conclusion, and the figure of it in the plate.

It seems hitherto to have been universally believed among naturalists, that the female fly enters the anus of the horse, in a very extraordinary manner, to deposit its eggs. Reaumur received the idea of Vallinier, and Vallinier of a Dr. Gaipari, whose observations I should suspect originated from seeing the *bisperostra equins* teasing the horse, as is very commonly seen; and its getting within the rectum was merely, it is probable, supplied by his fancy and imagination.

The objections to an idea of this sort are these, admitting there was any good foundation for such a supposition; that the anus is rather closed than opened by any irritation externally applied; that the fly would be crushed in attempting to pass the sphincter of a horse's rectum; and having no means of holding, while depositing its eggs, it would be quickly forced out with the dung; and it is evident, that the whole of the ovum, to the amount of some hundreds, must all be deposited in one horse, as it is impossible if the fly survived, it could undergo this punishment a second time; for the heat and moisture of the rectum would at least destroy its wings, and prevent its attaining a second time this situation.

I mention these objections, not as they merely relate to this species, but that it may not be credited of the nafalis, or indeed of any of them, that they really enter the body of the animal, to obtain for their young a situation there.

I have not seen any writer who has conjectured the real mode in which this fly deposits its ovum; which having discovered by repeated opportunities of witnessing it, I can speak of with certainty.

The part chosen by this insect for this purpose is the lips of the horse, which is very distasteful to the animal from the excessive titillation it occasions: for he immediately after its touch rubs his mouth against the ground, his fore legs, or against a tree; or if two are standing together, they often rub themselves against each other.

At the flight of this fly the horse appears much agitated, and moves his head backwards and forwards in the air, to baulk its touch, and prevent its darting on the lips; but the fly, watching for a favourable opportunity, deposits its eggs from the point of the abdomen, and lies continues to repeat his attacks on the lips, till the enraged animal endeavours to avoid it, by galloping away to a distant part of the field. If it then continues to follow, or tease him, his last resource is in the water, where the oefirus is never observed to pursue him.

The teasing of other flies may sometimes occasion a motion of the head familiar to this; but it should not be mistaken for it, as is never in any degree so violent as during the attack of the oefirus.

At other times I have seen this fly get between the legs of the horse whilst he is grazing, and then make his attack on the lower lip. The titillation occasions the horse to stamp violently with his fore-foot against the ground, and he often strikes with his feet as though aiming a blow at the fly. They also sometimes hide themselves in the grases; and as the horse roops to graze, they dart on the mouth or lips, and are always observed to poise themselves during a few seconds in the air, while the egg is preparing on the point of the abdomen.

When several of these flies are confined in a close place, they have a particularly strong fully smell, such as we feel when animals are confined in a close place: and I have observed both sheep and horses, when teased by them, to look into the grases, and smell to it very anxiously; and if by these means they discover the fly, they immediately turn aside, and hallen to a distant part of the field.

The eggs of this species appear of a darker colour than the former, and are provided with a petiolus, or foot-stalk from the end, the opposite being obtuse, and provided with an operculum: it is also ribbed in a transverse direction, unlike the eggs of the preceding species.

Our ancients imagined that poverty or bad food engendered these animals, or that they were the offspring of putrefaction. In Shakespeare's Henry the Fourth, part II, the other at Rochester says, "peas and beans are as dink here as a dog, and this is the next way to give poor jades the bots" and the miserable nag of Petruchio is said to be so "begotten with the bots." When the animal is kept from food, the bots are also; and, it is natural to suppose, are then the most troublesome: wherefrom arose the idea, that poverty or bad food could engender them.

Of the *oefirus ruminans*. This insect was known to Linnaeus, who gave it the name of *nafalis*, from an idea of its entering the nostrils of the horse, and depositing its eggs in the fanae: "Habitat in equorum fanae per nares intranls." Linn. Syll. Nat. 2. p. 97-98. which as it could not well do without destroying its own wings, is probably as much a fable as the "miris per annus intranls." of the preceding species. We have seen four chrysalides of this fly, which were uniformly found under the dungh of horses, which leads to a supposition that they also inhabit the stomach of this animal. The larva is at present unknown; but if it inhabited the fanae of the horse, it would produce such troublesome symptoms as could not easily escape the notice of those whose business it is to attend to the diseases of cattle. Such a disease has, however, never been described; nor after an extensive opportunity, both in the dead and living subje& to have ever seen a bot in the fanae of the horse. Perhaps the bots of the stomach, having crawled to the fauces in search of food, after the death of the animal, might have given rise to this idea: they may have even accidentally bred there; for there is little room to doubt, that these animals can live in any part whatever of the alimentary canal, or the passages leading to it. For a figure of this fly, see also the plate of the oefiris.

Of the *oefirus ovis*. About the middle of June I procured some full grown larve of the *oefirus ovis*, from the inside of the cavities of the bone, which supports the horns of the sheep. They are nearly as large as those of the large horse-bot, of a delicate white colour, flat on the under side, and convex on the upper, having no spines at the divisions of the segments, though provided with two curved hooks at the small end. The other extremity is truncated, with a small prominent ring or margin, which seems to serve the same purpose, though in a inferior degree, as the lips of the *oefirus equi* and hemmorhoidales, by occasionally closing over, and clearing the horny plate of respiration. When this margin opens, after closing over the plates, a flight snap is sometimes heard, from the sudden admission of air.

When young, these larvae are perfectly white and transparent; except the two horny plates, which are black: as they increase in size, the segments of the upper side become marked with two brown transverse lines; and some spots are observable on the fides.

They move with considerable quickness, holding with the tentacula as a fixed point, and drawing up the body towards them. On the under side of the larva is placed a broad line of dots, which, on examination with a glass, appear to be rough points, serving, perhaps, the double purpose of afflicting their passage over the smoother and lubricated sur-
faces of these membranes, and of exciting also a degree of inflammation in them where they roll, so as to cause a secretion of lymph or pus for their food.

"I have mostly found these animals in the horns and frontal sinuses, though I have remarked that the membranes lining these cavities were hardly at all inflamed, while those of the maxillary sinuses were highly so. From this I am led to suspect they inhabit the maxillary sinuses, and crawl, on the death of the animal, into these situations in the horns and frontal sinuses.

"The breeds of these, like the oe. bovis, do not appear confined to any particular season; for quite young and full-grown larvae may be found in the sinuses at the same time.

"When full grown, they fall through the nostrils into the ground, and change to the pupa state, lying on the earth, or adhering by the tube to a blade of grass. The fly buries the shell of the pupa in about two months. The figure is given in the plate; and its description at the conclusion.

"The manner in which this species deposits its eggs, which we have often seen, but not, we believe, ever been described; nor is it easy to see, though standing close to the animal at the time, exactly in what way this is accomplished, owing to the obscure colour and rapid motions of the fly, and the extreme agitation of the sheep; but from the motions of the sheep afterwards, and the mode of defence it takes to avoid it, there is little doubt that the egg is deposited in the inner margin of the nostril.

"The moment the fly touches this part of the sheep, they shake their heads violently, and beat the ground with their feet, holding their noses, at the same time, close to the earth, and running away, earnestly looking on every side, to see if the fly pursues; they also may sometimes be seen smelting to the grass as they go, least one should be lying in wait for them; which if they observe, they gallop back, or take some other direction, as they cannot, like horses, take refuge in the water: to defend themselves against its attacks, they have recourse to a rut, or dry dusty road, or gravel-pits, where they crowd together during the heat of the day, with their noses held close to the ground; which renders it difficult for the fly, who makes his attacks on the wing, to get at the nostril.

"I imagine the nostril, from repeated attacks of the fly, and the consequent rubbing against the ground, becomes highly irritated and sore; which occasions their touch to be so much dreaded by the sheep.

"From the difficult and very precocious mode these flies pursue, and also the hemorrhoidalis, in depositing their eggs, they cannot succeed in depositing but a few in each sheep; whereas, on the contrary, if they actually enter those cavities of the face to effect it, they must deposit them all, and in one subject, the impossibility of which is already stated.

"General observations on the oestrí. Having traced these separately through their various changes, and mode of propagation, it may not be improper to consider their good or ill effects on the animals that are subject to them.

"Though the attention of naturalists is at present occupied with the formation of a nomenclature, and descriptions, to every object of natural history, yet this pursuit, though difficult, and highly important, is not so much the ultimate aim of this science, as a knowledge of their economy and properties; as it is from these we are taught the most effectual means of avoiding the consequences of the injurious, and of protecting such as can be usefully applied to the purposes of mankind. If after mature inquiry, the existence of the oestrí should be proved, in a greater degree, injurious, than beneficial, by any service they can afford, their numbers might be considerably reduced, and a total extirpation of some of the species would not, I am disposed to believe, be altogether impracticable in our insular situation.

"The injury derived from their depredations is principally felt by the tanners, whose hides are often exposed to these animals, as to be considerably damaged; and sometimes the loss of a horse or sheep may be occasioned by the existence of the other species.

"If it were desirable to kill their numbers, the following, I apprehend, would be the most successful means. The larvae of the oe. bovis, or ox bot, which breeds in the backs of the horned cattle, is so conspicuous, that it is more easily destroyed than the others: the injection of any very corrosive liquor into the sinews would kill it, or by puncturing the larva with a hot needle, through the aperture in the flux, or by simple pressure, they may be destroyed, afterwards extracting them, or leaving them to slough away, which I have often observed they do, when enucleated by a blow from the horn of the beast, or by any other accident, without the least injury to the animal. A man employed for this purpose might, in half a day, destroy every bot on a large common, the beasts being suffered to pass by him one by one.

"In respect to the great and small horse-bot, those who have horses which have been much out to graze the preceding year, in countries where these flies are prevalent, might considerably diminish their numbers, by examining the horses occasionally for the bots, during the summer months; when they will be found hanging to the extremity of the rectum, where they remain, especially the hemorrhoidalis, for some days before they fall to the ground.

"The destruction of a single one, at this season of the year, is not only the death of an individual, and its effects, but the almost certain destruction of a numerous family.

"I am induced the more particularly to recommend attention to this circumstance on another account, which is from the necessity there is of preventing the irritation which this animal occasions to the anus of the horse, which at times is highly troublesome. If the horse is used on the road, while the bots are adhering to his part, the irritation becomes particularly distressing, and causes him to move very awkwardly and sluggishly, as though tired; and, if feverish, he soon relapses again into the same awkward way of going; and as this generally happens during warm weather, it is attributed to mere laziness, and severe correction follows, but to no purpose, of which we have two or three times been an eye witness; but, on the removal of the bot, the cure is instantaneous.

"There is no medicine at present known that will detach them from the throat, or intestines, though there are not wanting abundance of insensible nostrums for this purpose among the very numerous professors of horse medicine. An easy and effectual mode for the oe. equis, is to destroy the eggs which are deposited on the hairs, and are readily seen and removed by a pair of tissors, or a brush and warm water.

"In the sheep, it would be much more difficult to prevent or destroy them by any of these means, particularly if they are situate in the maxillary sinuses; as, in this case, even trepanning them would be insufficient, as they would probably lie concealed in the convolutions of the turbinated bones.

"Perhaps the removal of the sheep to a distant pasture, during the months of June and July, whilst the greatest part of the bots are yet on the ground, in a chrysalis state, and not bringing them on such ground again, till the setting in of
of winter, would be the means of destroying them most efficiently; and this process, repeated for two or three years successively, in places where they are particularly troublesome, might prove eventually useful to the farmer: the Laplanders, we learn from Linnaeus, migrate annually with their rein-deer, on account of the bot which infests them.

On the other hand, notwithstanding the apparently unnecessary existence and cruel effects of the *offret*, they are probably not altogether without an use, or were designed by Providence to add, without a recompense, to the numerous sufferings of these laborious and inoffensive animals.

A physiological view of their effects will perhaps best justify their existence, and save them from such an imputation.

The larvae of the *offret*, when applied under proper restrictions, and only to a certain extent, may be of greater utility than from our present very limited knowledge of them we are able to discover; but we may venture to remark, that their effect in keeping up a considerable degree of irritation in the membranes, on which they are situated, may perhaps not imputed be compared to that of a perpetual itch, or blister. Nor is it wanting abundant proof of the utility of local irritations, in preventing the access, as well as in effecting the cure of disorders. We often see a formidable disease quickly removed by blistering the skin, or by irritating the mucous membranes of the throat, or intestines, by a vomit or purg. The appearance of exanthematus eruptions on the skin, and the formation of local abscesses, from the same cause of partial irritation, often relieve a general disorder of the system.

The mucous membranes, and the skin, possess this power, when irritated, in a more eminent degree than all the other parts of the body, and it is to the larvae of the *offret* are applied. Irritating the membranes of the throat, by such means, in other animals, would excite nausea and vomiting: but the horse, not possessing this power, his throat is peculiarly fitted for the filthins of such inhabitants.

How far the access of these dreadful disorders, which sometimes arise of themselves in cattle and horses, and afterwards become contagious, as the murrain, glanders, farcy, &c. may be prevented by these peculiar irritations, it will not be easy to discover, nor whether that singular tendency or disposition in the horse to inflammatory complaints, as the inflammation of the eyes, termed moon-blindness, inflammations of the lungs, and of the bones, &c. may be in any degree subdued by these local irritants.

In confirmation of this suggestion, I may remark, (although I am aware other reasons may be also assigned for it,) that those horses which are not exposed to the bots, more frequently are infected with the glanders, farcy, &c. as those of the army, poll coaches, poll waggons, and dray horses, these being rarely spared, from the nature of their work, to graze on the commons, and thus be exposed to receive them.

If, on a more minute search into their effects on the system, the utility of these native filthins of animals should be established, and, like the leach, or the cantharides, they should be called in aid of veterinary medicine, it would be very practicable to administer them artificially, in any quantity, either by the eggs, or the larvae themselves.

If the stimulus is considered as of too gentle a nature, it is, in some measure, stoned for by its permanency, and the unlimited power of increasing their numbers: at least by the administration of them, in this way, we might accurately ascertain their real effects, and whether they are so fatal as has been imagined.

There seems also to be a principle existing in nature, of leaving no space unoccupied that can possibly afford a situation for the convenient increase of animal existence; hence, perhaps, springs one of the causes for the extraordinary occupation of these parts by these animals.

The characters which appear to be general in the structure of this family are, that the antennae have three articulations, the last almost globular, having a brittle or hair in front; and these antennae are each lodged in a deep excavation of the face. The mouth, a simple aperture, not at all projecting from the head. The *pulpi*, or feelers, are two, of two joints, their extremity globular, sunk in a depression on each side the mouth.

All the species of this extraordinary family at present known are,

*Oeletus bovis*, great ox bot fly. Brownish unpotted wings; abdomen with a black band in the middle, and its extremity with orange-yellow hairs.

*Oe. equi*, or great horse bot. Wings white, with a stripe of black, and two small black spots.

*Oe. bewonnoidalis*, or lesser horse bot. Wings dark, unpotted, abdomen black, base white, and point orange.

*Oe. veterinus*, or natalis of Linnaeus, the redbot fly. Wings unpotted, fides of the thorax, and base of the abdomen, with white hairs.

*Oe. ovis*. The sheep hot fly. Wings transparent, with small spots at the base; abdomen checkered with black and white.

*Oe. turanii*. The rein-deer bot fly. Wings immaculate, thorax with a black band, abdomen orange, posteriorly yellow.

*Oe. canucili*. The American rabbit bot. Black wings, brown thorax, black beyond the middle, posteriorly, on the fides of the thorax, and the base of the abdomen, with yellow hairs. Larva. In the backs of the hares and rabbits of Georgia. The immense size of this *oeletus*, which is more than twice as large as the ox bot of this country, would lead us to doubt, whether it might not have been the inhabitant, originally, of some of those immense animals of that continent, which are now lost. See Lin-Society Tranf. vol. iii. p. 269.

*Oe. lacratus*. Carolina bot fly. Red-brown, face white, with black spots.

Found in Carolina and Georgia.

*Oe. peconum*. Wings brown, thorax grey, hairy, abdomen black, base with white hairs. In the intellines of the sheep, says Fabricius, whose species are to be adopted with great caution; perhaps it is only a dark-coloured female, of the *oe. natalis*. The whole genus has been greatly confounded by Fabricius, and not less by his successor, Prof. Gmelin, who three additional species, *antilopae*, *saecriclus*, and *bominae*, are probably all spurious. The first of these agrees, in all respects, with the female of *oe. equi*, the habitating being false. The second is a variety of the *oe. natalis*, and the third is, perhaps, merely a accidental deposit of *oe. bovis*, in the human body, of which there are numerous instances.

*Oe. Georgianus*. Body and wings black, fides of the thorax white, with two black spots.

It is found in American Georgia; the animal it infests is not yet known. From the cabinet of Mr. Franchillon. It is twice as large as the *oe. bovis*, and very different from any thing yet described.

For the figures of these animals, see the plate of the genus *Oeletus*.

**BOTWAR**, in Geography, a town of Germany, in the circle of Suabia, and duchy of Wurtemberg, seated on a small river of the same name, which runs into the Neckar; 10 miles S. of Heilbron, and 13 N.N.E. of Stuttgart.

**BOTZEN,**
BOTZEN. See Bolzano.

BOTZENBURG. See Boitzemberg.

BOVA, a town of Italy, in the kingdom of Naples, and province of Calabria Ultra, the see of a bishop, suffragan of Reggio, situated on the brow of a hill, at the foot of the Apennines, near the sea; 20 miles S.E. of Reggio. Being out of the way of trade and thoroughfare, this place can boast neither of wealth nor agriculture. The villagers in its vicinity carry corn, cheese, and cattle to Reggio; but that being a poor mart, has but small demands, and a little circulation of money. Most of the inhabitants are of Greek origin and race; and emigrated from Albania a few centuries ago. Their common language is Albanese, which is a dialect quite different from the modern Greek and Slavonian languages; and though known in Europe for more than a thousand years, and spoken by all the nations round Albania, still remains without an alphabet, and many of its sounds are not to be accurately expressed either by Latin or Greek letters. Hence it may be inferred, that it is a mixture of the dialects of those Tartarian hordes that overran Macedonia and Greece in the 8th century; to which medley the intercourse with Germans, Italians, and Crusaders, has added a variety of foreign terms. The men can speak Calabrese; but the women, who neither buy nor sell, understand neither tongue but their own, which they pronounce with great sweetness of accent. Swinburne's Travels in the two Sicilies., vol. ii. p. 241, &c.

BOUAGE, a town of France, in the department of the Lower Loire, and chief place of a canton in the district of Nantes; 8 miles S.W. of Nantes.

BOUALLI, a town of Africa, the capital of Loango, so called by the French.

BOVATA terre, in Ancient Law Writers, signifies an ox-gate of land, or fo much as may be ploughed in a year with one ox; by some reckoned at fifteen acres, by others at eighteen, by others at twenty, and by others at thirteen or twenty thallings yearly rent.

This is otherwise called beovtur, and bovovinta terre.


Gen. Char. Cal. perianth small, tripartite, pubescent, en- dcoholic. Cor. petals three, oblong, pointed, concave, longer than the calyx. Stam. fil. pist. sper- miferous, oval, compressed, villose, dimpled at its summit; stigmata two, septic, obtuse. Per. a capsule nearly heart-shaped, compressed, smooth, sharp-edged, dimpled at its summit, and divided into two cells, each of which contains a single oval seed.

It is a small tree which grows in the East Indies, is extremely bitter in all its parts, and is given with successe in fevers. It is also used as a restorative, and an antidote to poisons.

BOUBI, in Ornithology, the name given by the French navigators to the booby of the English. See BOOBY.

BOUBIL, the name by which the Chinefe at Canton denote the crying-thrush, turdus canorus. In other parts of China, the same bird parades under the title of, can-nue. Sonnerat tells us, this is the only singing bird that is known to inhabit the vall empire of China, where it is occasionally kept in cages, for the sake of amusemen, by the fair sex. It infests on rice, worms, insects, &c. The same bird is also called banjoubob. See CANORUS.

BOUBIL, Boobil de la Chine, the name given by Sonnerat to the turdus habitat of Gmelin, and chauising-thrush of La- thain. See BUSIL.

BOUBOU. Le Vaillant, in his History of the Birds of Africa, belows this name on a species of Turdus, the male of which has a remarkable peculiar note, resembling the word 'bouhou', often repeated. This bird was previously described by Buffon, under the title of Merel noir et blanc d'Abissinie: it is also the turdus abissicus of Gmelin.

BOUBOUT, one of the synonymous names of the hoopoe, or hoop, the utapa epos of Linnaeus. See Epops.

BOUC, in Zoology, Geogift bok, Grn. synonymous names of the goat, capra hircus. Boce d'Afriquc, is capra defrufi; and boce de jada (of Buffon) is capra reclusa of Linnaeus; the obidew goat of Pennant.

Bouc Damaoue, the French name of the Linnaen aul- thope grimina; called also by them grimine, and Chiere de grimine.

Bouc-Faisan, or Bouc-fleuin, the names of the wild goat (capra ibex of Linn.), in old French writers. The word is of German origin, being derived from bock, or bone, and flein, a rock or flone; in French, boce de roche; or, as we should render it, the rock, or mountain goat. Thus also, boce de roses, boce quintin, bone fourage, &c.

BOUCANGEKIZ, in Ichthyology, one of the synonymous names of sparus pagell. See PAGEL.

BOUCARDE, or Bucarde, in Conchology. See CAR- DIUM, the cockle.

BOUCHAIN, in Geography, a town of France, in the department of the North, and chief place of a canton in the district of Douay, seated on the Scheldt, and carrying on a considerable trade in corn and cattle. The place contains 1,128, and the canton 13,500 inhabitants; the territory comprehends 1524 kilometres and 20 communes. Bouchain is a strong town; it was taken by the duke of Marlborough in 1711, after a siege of 30 days, retaken in the following year by maréchal Villars, and invested by the Austrians in 1705, but soon relieved; 3 leagues S.W. of Valenciennes, and 23 N.N.E. of Cambrai.

BOUCHARDON, Edme, in Biography, an eminent French sculptor, was born in 1608 at Chaumont in Beaujaly, where his father was a sculptor and architect; and educated at Paris, in the school of Coustou the younger. At Rome, whither he removed as the king's pensioner, to which his merit advanced him, he cultivated, with affluence and success, his talent for design, by copying the precious remains of antiquity, as well as the works of modern painters. He afterwards settled at Paris, and, notwithstanding his singular simplicity of character, became eminently distinguished, so that he was employed in several works of importance; the principal of which are the fountain in the rue de Grenelle, fay- bourg St. Germain; a statue of Love making a bow of the club of Hercules, with the arms of Mars; and the equerelian statue of Lewis XV. at Paris. In 1736, he was appointed designer to the Academy of Belles Lettres; and, in 1744, he was admitted into the Academy of Painting, of which he was made professor in 1746. Having acquired a decent fortune, by his industry and regularity, and attained high eminence in his art, he died in 1762. His compositions are formed in the style of simple antiquity, and more admired for correctness and good taste, than for force of expression or vigour of imagination. His drawings are highly esteemed; they have furnished various engravings; and a Treatise on Anatomy, for the use of artists, published by Huquieres in 1741, is illustrated with figures by his hand. The chief amusemen of this artist was music, which he performed in a masterly stile. D'Argenville's Vies des Sculpteurs. Gen. Bio.

BOUCHARI, or Pouchari, also Bouchier, Boucherie, &c, in Ornithology. These are the common names of the grey-
BOU

grey-backed shrike, Lanius excubitor, in Burgundy. The words are derived from the English butcher-birds, an epithet applied to us, in a general manner, to all the species of the shrike, or lanius genus.

BOUCHE, Martin, in Biography, an engraver, who flourished in 1680. He was chiefly employed by booksellers; and portraits were his principal performances. He worked together with the graver, in a neat but difficult style; and his portraits, several of which were those of Jefuits who suffered in England about his time, are not deficient of merit.

BOU, Boce of court, the privilege of having meat and drink at court feet-free.

The word is also written bouce, bougee, and budge; it is mere French, where it signifies mouth. The French still use the phrase, Avoir bouche a la cour; that is, to have table or diet at court.

This privilege is sometimes only extended to bread, beer, and wine; it was a custom anciently in use, as well in the houses of noblemen as in the king's court.

Thomas earl of Lancaster retained for John de Eure, to serve him with ten men at arms in time of war, allowing them bouge of court, with livery of hay and oats, hores-faces, and nails. Sir Hugh Merril had the same privilege for life, on condition of serving king Edward II. Kennet. Gloss. ad Paroch. Ant. p. 378.

BOUCHE d'Arget, in Conchology, the trivial French name of a shell of the turbo genus, the mouth, or opening of which is silvery within. Linnaeus calls it Turbo argyrofusus; the English silver-mouth turbo, or silver-mouth.

BOUCHE d'Or, as in the former, a trivial sort of expression among the French collectors for the Linnæan Turbo Chrysalis, the mouth of which is of a fine golden hue. This is the gold-mouth turbo of the English.

There are a number of other shells, distinguished in like manner, by the colour of the mouth, to each of which a characteristic epithet is given; but such names are always capricious, and liable to be misapplied, because they are the names in common use among the dealers in shells, and others, who have only a flight acquaintance with the subject of teneology. It is always better, therefore, to retain the names assigned to them by Linnaeus, and other Latin authors.

BOUCHEMAINE, in Geography, a town of France, in the department of the Maine and Loire, and chief place of a canton in the district of Angers; 5 miles S. of Angers.

BOUCHENE, a town of Perig, in the province of Korolane; 20 miles N. of Herat.

BOUCHE, Francis, in Biography, a modern French painter of celebrity, was born at Paris in 1706, first educated under Le Maine, and finished his studies at Rome. Upon his return to Paris, where he settled, he obtained, by the style of his painting, the appellation of the "painter of the graces," and the "French Albanian." He was advanced to the post of first painter to the king, and that of director of the Academy of Painting, after Vazloo; but he was carried off by a premature old age in 1770. His character was social and frank, without envy or avarice; he was always ready to bestow his works on those who admired them, and liberal in his encouragement of young artists. Of his singular modelly we have an instance, in his refusal to retouch a picture of one of the first Italian masters, alleging, "Such works are holy vessels to me." His works were held in high estimation. He possessed great fertility of invention; but, says Mr. Strutt, he was defective in correctness and grandeur of design. He executed some fine etchings from his own compositions, and those of other masters. Strutt. Nouv. Dict. Hist.

BOUCLIER, John, a furious fanatic, was born in Paris, where he became professor of philosophy and theology, and afterwards rector, in 1580. He was also prior and doctor of the Sorbonne, and was made rector of St. Benoist. As a preacher and a writer, he was a leading and active promoter of the league against king Henry III.; the rebels first assembled in his apartments in 1585; and he ordered the alarm-bell to be rung in his church, which contributed to excite the popular insurrection of that year. He has been charged with instigating James Clement, a Dominican monk, to the assassination of Henry; however this charge he is called to account. He was a very opposite to the success of Henry IV., against whom he branded from the pulpit and from the press. Nor did his opposition cause with the king's abjuration; for pretending that he was a feguen convert, and that the pope's absolution was invalid, he published "Nine Sermons" on the subject, which he had preached at Paris in 1593. When the Parissians received Henry into the capital, these sermons were publicly burnt, and Bouclier, perfiling in the party of the leaguers, fled with the Spanish garrison, in 1594, into the Low Countries. At Tournay he obtained a canonry; and, after a residence of 50 years, he died, of that chapter, in 1644. As a feguen name he is supposed to have written an apology for John Chatelet, who made an attack on the theories of Henry IV. and also for the Jesuits, who, in consequence of it, were bannished from France. So atrocious was his virulence as a partisan, that he justified the conduct of those wretches who had hanged the first president Brillem, and dignified them with the title of martyrs of Jesus Christ, after they had been executed by the duke de Mayenne for that murder. It is said, however, that, towards the close of his life, he regretted living among the enemies of his country, and manifested some signs of repentance for the atrocities of which he had been guilty. Gen. Diét.

BOUCHER, John-Joseph, born at Lisle, the 25th of March 1715, was, in succession, physician to his native city, corresponding member of the Academy of Sciences, and foreign associate of the Royal College of Surgery at Paris. He published, in 1751, "Methode abrege pour traiter la dyfenterie regnante a Lisle en 1750," &c. He also furnished the Journal de Medicine with "Meteorological Observations" made at Lisle, and with other philosophical papers. Eloy, Dict. Hist.

BOUCHER, in Geography, a town of Perig, in the province of Perigord, on the north coast of the Perigord gulf; 160 miles S.W. of Schiras.

BOUCHOUX, a town of France, in the department of Jura, and chief place of a canton in the district of St. Claude. The place contains 1,850, and the canton 6,094, inhabitants; the extent of the territory comprehends 1271 kilometres and 13 communes.

BOUCLANS, a town of France, in the department of the Doubs, and chief place of a canton, in the district of Defancon; 8 miles E. of Defancon.

BOUCHE, in Fab AE, etymology, synonymous with cyclopæbre the French name of the Cyclopterus genus of fishes.

BOUCHE, Écaillet de tortue, in Conchology, the name given by the French collectors to those shells of the hirpa genus whose colours, and general form, bear some resemblance to the scale of a tortoise. The most remarkable species of this kind is paela eestinaria of Linnaeus.
Enloology, the town thorax most. 2 and canton, Le. Illigeath, the thie not Biography, small town transverse See dark 4 in hltlc thorax 1 race Rhodes, 5 in the genus the 3 believed, in leagues L'ohfciir namely, the and peltis. The genus peltis, forgoing aftly unequal horned, eleven large, and clubbed, and the last almost oval. The mouth is furnished with horny, simple mandibles; acutely pointed jaws; and four unequal fihron feelers; and lastly, the tars are fihron, and composed of five joints.

Insects of this tribe were formerly confounded with those of cafidis, dophorus, pbarvum, microporus, opunam, and until, from all of which they are to be discriminated by the foregoing character of bouclier.

There is another very analogous genus to this, namely, peltis of Fabricius. Peltis was a name given many years ago by Geoffroy to the insects afterwards called filpha by Linnaeus. It was again taken up by Illiger, who bestowed it on a new genus of coleopterists established by him, in which the Linnean species of filpha, griffa, ferruginea, oblonga, and limbata, were comprised. The genus peltis is adopted from Illiger by Fabricius, in his last work on coleoptera, Syllena Eleutheratorum. It will be therefore proper to point out exactly in what particulars these two genera differ. The peltis has the lower lip truncated and ciliated, while in the boucliers that part is dilated and bifid; there is some dilimilitude in the external character of the two genera, and their habits of life are distinct. See PELTIS.

The boucliers exhale a most fctid odour. Commonly they are found feeding upon cadaverous carcasses, the dung of animals, or other fuch filth. There can be no doubt that the fench of these insects affects even the animal matter which they crawl upon, and on which they subsist. When taken in the hand, these beetles fput from the mouth, as well as from the anus, a drop of liquor of a dark or black colour; the fcellency of which is thick, and the fench difgusting. This liquor is not produced by violence or compression; it is voluntarily discharged by the creature, and is, beyond dispute, a secretion prepared by nature to promote the putrefaction of the fcell it may chance to meet with, as is only in that state that the boucliers feed upon it.

Oliver describes only a few species of this family; namely, le thoracique, which is black, oval, and depressed; thorax fawn colour; and wing-cases with elevated lines. Le littoral is black, long, with three elevated lines on the wing-cases, and a tranverse protuberance. Le robustus is black; the wing-cases rugged, with three elevated lines; the thorax rugged likewise, and fumous behind. L'atene is very black, with an entire thorax; the wing-cases dotted, with three smooth, elevated lines. L'obere is black, slightly convex, with the wing-cases dotted, and three elevated lines obfconely marked. Le quadrupline is oval, depressed, and black; the wing-cases of a pale yellow, with two black dots on each. These are all the boucliers mentioned.

BOUCNASCH, in Geography, a town of Germany, in the duchy of Holstein; 5 miles E. N. E. of Rendsburg.

BOUCOIRAN, a town of France, in the department of the Gard, and chief place of a canton, in the district of Uzes; 3 leagues W. of Uzes.

BOUCONVILLE, a town of France, in the department of the Meuse, and chief place of a canton, in the district of St. Mihiel; 2 leagues E. of St. Mihiel.

BOUDHA, in Indian Mythology. See BODHI.

BOUDIN DE MER, in Zoology, the name given by Vol. V.

BOUCOIRAN, a town of France, in the department of the Gard, and chief place of a canton, in the district of Uzes; 3 leagues W. of Uzes.

BOUÉE, in Geography, a town of France, in the department of the Meuse, and chief place of a canton, in the district of St. Mihiel; 2 leagues E. of St. Mihiel.

BOUÉD, in Entomology, the epithet under which the overall is distinguished in some countries.

BOUÉE, in Geography, a town of France, in the department of the Meuse, and chief place of a canton, in the district of Commercy; 5 leagues S. E. of Bar-le-Duc.

BOUÉLLES, a town of France, in the department of the Somme, and chief place of a canton, in the district of Amiens; 2 leagues W. S. W. of Amiens.

BOUÉNA, the most easterly of the lieers islands to the coast of Toulon, in the Mediterranean, on the coast of France. See HIERES.

BOVENDEN, a town of Germany, in the circle of the Upper Rhine, and principality of Heife-Rhinefs; 4 miles N. of Gottingen.

BOUES, a town of France, in the department of the Somme, and chief place of a canton, in the district of Amiens; 12 leagues S. E. of Amiens.

BOUXIERE, L., a town of France, in the department of the Ile and Vilaine, and chief place of a canton, in the district of Vitre; 10 miles N. E. of Rennes.

BOUFFE, in Zoology, a race of dogs with fine, long, frizzled hair; a croc breed between the baschet and great spaniel.

BOUFFERS, ROUS-BOUM, in Biography, duke, peer, and marshal of France, and a celebrated general, was the son of Francis count of Bouffers, and born in 1644. In 1669, he became colonel of dragoons, and served in the conquest of Lorraine under marshal Crequi; and in the war
against Holland he distinguished himself, under Turenne, in several battles and sieges. He afterwards served in Germany, on the frontier of Spain, and in Flanders; and at length was made general of the army on the Moselle, in 1690. After several services of importance at Mons, Liege, Luxemburg, and Namur, &c., he was advanced in 1693 to the rank of marshal of France; and, in the following year, he was made governor of French Flanders and the town of Lille. In 1699, having held out 43 days against the united forces of the allies under King William at Namur, when the place capitulated, he was arrested prisoner of war; and upon his remonstrance that the whole garrison, which had not been surrendered by the French, according to the articles of war, should have been retained rather than himself, he was answered, by the compliment, "Sir, you are esteemed at 10,000 men." He afterwards conducted the conference which terminated in the peace of Ryswick. In 1708, he acquired great glory by an obstinate defence of Lille for four months, when it was threatened with a siege by Marlborough and Eugene. On this occasion he displayed his magnanimity, by his noble declaration to a person who represented to him the facility of killing prince Eugene; "Take him prisoner," says he, "and your fortune is made; but expect the most severe punishment, if you undertake any thing against his life."

At the battle of Malplaquet, he conducted the retreat, so as to lose neither cannon nor prisoners. Having established the character of a true patriot, as well as that of a great commander, he died at Lointainville, in 1711; at the age of 68. "His heart," said Madame de Maintenon, "was the last part that died." Nouv. Dict. Hist. Gen. Biog.

BOUFFLES, in Geography, a town of France, formerly called "Cagny," in the department of the Oise; 7 miles W. of Beauvais.

BOURFAMONT, a town of France, in the department of the Voges, and chief place of a canton, in the district of Neufchatel; 2 leagues S. of Neufchatel.

BOUGAINVILLE, John Peter de, in Biography, was born at Paris in 1722, and educated at the college of Beauvais. The first exhibition of his literary character was in a prose translation of "Anti-Lucrertius," with a preliminary discourse. Amongst the friends and patrons, procured for him by his distinguished literary talents and amiable qualities, was M. Pierret, secretary of the Academy of Incriptions and Belles Letters, by whom he was introduced into that society, and whom he succeeded in his office. Of the various papers, which he wrote for the Memoirs of the Academy, two of the most considerable are those on the voyages of Pythas of Marseille, and of Hanno the Carthaginian. In 1754, he was admitted into the French academy; and appointed censor-royal, and keeper of the antiques in the Louvre. He also published "A parallel between Alexander and Thamos Kuli Khan; and edited Pierret's Chronology. He died of an asthma, to which he had been subject from his youth, at the castle of Lories, in 1763. Nouv. Dict. Hist.

BOUGAINVILLE, M. D. F. a native of France, and the first perfon of that country who circumnavigated the globe. His nautical discoveries were very numerous, and he occupies a high rank among those who have extended our acquaintance with distant seas and islands. He was killed by the mob in a tumult at Paris, May 16, 1792.

BOUGAINVILLE bay, in Geography, lies in the straits of Magellan, on the north side.

BOUGAINVILLE island, an island of the South Pacific ocean, adjoining a group of other islands, with which it forms a bay not less than 15,000 toises in extent, seen by M.
rather who applied them, for these purposes; but, as the name bougie is of French origin, it may be the invention of a French surgeon, and perhaps of Guido de Cauilaco, (who flourished before the existence of Syphilis in Europe); for this surgeon, in his chapter "De ulceribus anchuranum, &c." Chir. Mag. Traet. IV. Doct. II. cap. 7, recommends the "Turundal ex cera," to be passed up the urethra.

The materials commonly used recourse to, in the fabrication of bougies, catheters, and swabs, during the sixteenth century, were gold, silver, and lead; but these metallic rods were not sufficiently pliable and soft for introduction into a diseased urethra, surgeons afterwards used bougies formed of slips of linen or silk, dipped in melted wax, &c and rolled into the size of a goose-quill, of sufficient length to pass as far as the neck of the urinary bladder. This kind of bougie was greatly improved by Mr. Daran, of Paris, who, nevertheless, made use of some very ridiculous and useless ingredients in the composition of them; such as sheep's dung, pulverized shoe-leather, port wine, and live pigeons; not to mention various other ingredients, equally needful, though not quite so absurd and pretentious.

As it is now generally admitted by surgeons that bougies act mechanically only, and not medicinally, in curing diseases of the urinary canal, we shall proceed to describe the properties and composition of waxen or platter bougies; after which we shall notice the elastic bougies, and shall offer a few hints on an invention by Mr. Smyth, of London, who has lately contributed to the revival of metallic instruments, which had almost been wholly laid aside, on account of their wanting due flexibility, &c.

The properties required in a bougie for dilating a contracted urinary canal are, 1. Sufficient firmness to overcome the resistance of the stricture; 2. A degree of flexibility, which shall yield and accommodate itself to the windings or tortuosity of the morbid canal; 3. So much strength, cohesion, or tenacity, as not to be in danger of breaking; 4. Perfect smoothness of surface, that it shall occasion no uneasiness of difficulty in passing; 5. A mildness in its composition, which may ensure its remaining for a sufficient time in the urethra, without exciting pain or inflammation.

That it is possible to communicate a medicinal quality to bougies, cannot be denied; and it having been an old opinion that strictures were usually attended with ulcers or abrasions in the urethra, which required healing, surgeons have frequently employed medicines in the composition of bougies, supposed to possess a power of cicatrizing these ulcers: but of late, both the remedy and the disease have been exploded; we do not any longer suspect venereal ulcers as a coining symptom of stricture, and therefore have discontinued what were called cicatrizing applications. Still, however, the idea of employing mercury in this way, is not wholly given up; and there are medical practitioners who prefer bougies containing a large proportion of the specific, believing that it tends to eradicate any venereal taint in the system; but the major part of the profession consider mercury as entirely useless in these cases; because, if there happens to be any venereal taint in the constitution, this mode of administering mercury would not be the most eligible for the cure; and because the addition of such an incongruous article to the other ingredients, has the effect of diminishing the tenacity of the bougies. A prescription formerly in vogue, and which therefore had been received into the last edition of Chambers's Cyclopaedia, consisted of Burgundy pitch, two ounces; quicksilver, one ounce; and crude antimony in powder, half an ounce.

The objection against antimony, and such like brittle materials, will undoubtedly be urged with at least as much force as that we have already made against mercury; and on this account we recommend that no mineral sublimate shall be employed in such quantity as to lessen the tenacity or cohesive nature of the platter composition.

The bell formed platter bougies may, without any injury, be varied in the proportion of their ingredients, or in the colouring matter they contain, according to the temperature of the weather, or the intention of the surgeon. They may be coloured red, with a little cinnabar; white, with ceresine; black, with athiop, &c; and in warm weather, or a tropical climate, they should be made of a firmer confidence than in a cold country. The balls of all platter bougies should be wax and oil; the wax may be either yellow or white; the oil, either vegetable or animal; to which may be added, a small proportion of resinous matter, &c; to afford the degree of confidence and tenacity we require. The ingredients should be well boiled and incorporated together, especially when there is the addition (usually made) of lathargic or minium in considerable quantity.

The following are among the most simple and approved compositions for platter bougies:

N° I. R. Gum lac, one pound;
Litharge platter, three pounds:

Dissolve the gum in the platter by slow boiling, and add of yellow wax two pounds. After about three hours more boiling, the whole may be set aside for use.

N° II. R. Olive oil, three pounds;

Yellow wax, one pound;

Minium, one pound and a half.

These articles are to be boiled slowly for six hours, or even longer in the winter. If the mass be not of a sufficiently firm confidence, add three or four ounces more of the wax.

N° IV. R. Litharge platter three parts, and
White wax two parts; to which add as much olive oil or hog's lard as will give the confidence required.

Boil them as before.

N° V. R. Yellow wax, one pound;
Sperma ceti, half an ounce;

Acetated ceruse, from two to eight drams, according to the degree of solidity desired. Small bougies are to be made of a thicker mass than larger, especially for a hot climate.

N° VI. R. Yellow wax, four parts;

Oil of olives, three parts;
Sperma ceti, one part.

Boil them gently together for two hours, or until they are properly incorporated.

As prescriptions of this sort may be varied at pleasure, it is unnecessary to increase the number of our formulae; the above compositions are to be used in a melted state, but not very hot. Slips of soft linen or calico, of a fine texture, and not less than eleven inches in length, are to be dipped into the warm mass, or spread over with some of it by means of a broad spatula, and care should be taken to make the surface of this cecloth as smooth and uniform as possible. Some persons advise that the slips of fine rag shall be of different lengths, from eight to eleven inches, and about three in breadth; these slips are then to be rolled up loosely, and taking hold of one extremity with the left hand, let it fall upon the surface of the platter, and then draw it out gently. As it is drawn out it will unroll, and take up a quantity of platter on the surface, equal to the thickness of a wafer or a thong; though, to facilitate the unrolling of the rag, it will be proper to allit its motion with the end of the spatula,
tola, or some other instrument. The plater, however, must be warm enough to soak through, and discoulour the rag, otherwise it will not make so good a bougie.

If the clot be exactly three inches broad, it will make fix bougies of a moderate size; but their size may be suited to the occasion. It is generally advisable that the bougie should be smaller at the end which is introduced through the stoma, than at that which is left out at the penis. For this purpose many cut off a part of the oblong square before mentioned, in such a manner as to reduce it almost into the shape of a long right-angled triangle; but as this way of cutting it weakens the bougie excessively, and as it is not at all necessary that the bougie should be taper from one extremity to the other, it is much better to cut down a little slope of about an inch and a half long from the end that is to be palled into the urethra, which will lessen it where it is necessary to be small, and leave it strong in the other part, where the diminution is not necessary.

The platter, when taken up by the cloth, when dipped, will have little bubbles upon its surface, and not be so smooth as if it had been spread therefore in its crude state, a little warmed, may be palled over the platter before it be cut into bougies, which will render it more compact and even. It is a much more exact and speedy method to cut the bougies off with a knife and ruler than with scissors. When they are rolled up, it must be with that side outward which is covered with plater; and they must first be rolled by hand as close as possible, before they are rolled upon a board or marble; for upon this circumstance the neatness of the bougie depends.

It seldom happens that a bougie is required to be more than a quarter of an inch in diameter, or three quarters in circumference; but the generality of practitioners are apt to err in using them of too small a size to produce any permanent advantage in overcomig the stoma. There is undoubtedly a great difference in the calibre of the urethra of different persons, and we have known the plater composition to have been forced off the line by a patient having used the bougie too large, so as to collect the plater in a mass within the urinary canal; but we will lay it down as a general rule to employ the instrument as large as can be conveniently introduced, and again withdrawn from the urethra, although by no means so large as to hazard the accident here alluded to.

Some surgeons have very highly extolled the utility of bougies made of catgut, because of the property they possess of becoming dilated by the moisture of the urethra, and thus enlarging the contracted part of the canal. We have, however, been much disappointed in our expectations from catgut bougies; as they did not dilate with sufficient force upon the exact spot in which the disease existed, and therefore tweddled generally without advantage; nay, it even happens that the catgut, if it be large, will not come away without difficulty and pain, since it dilates equally beyond the stoma itself, as well as on the contracted part; and if it be not sufficiently large, its softness renders it of no utility whatever. As there is no possible mode in which the catgut can do any good, but by mechanically extending the stoma, and as this can only happen for a few moments while the instrument remains firm, it must be obvious to every reflecting person that this kind of bougie is likely to be even less useful than those made of plater or crepe-cloth; and this is precisely what we have observed as the result of our own experience.

Practitioners, being in some respects dissatisfied with the bougies commonly used, have introduced pieces of smooth whalebone, or long strips of leather, for the same purpose: but we think, upon the whole, they are liable, at least, to as strong objections as any we have already mentioned; and the trials made with them, by several surgeons, have not at all produced a conviction of their superiority. At present, indeed, they seem to be entirely laid aside.

Another species of bougie, which deserves much more attention, is composed of catgut internally, and covered by a thin layer of diffused elastic gum, or caoutchouc. The manufacture of this elastic vegetable substance is confined to a very few hands. We believe it was first applied in a state of solution to the purposes of surgery, either by Mr. Teden, a Prussian surgeon, or by M. Bernard, of Paris; but bougies of this kind are also made in other countries, especially in Sweden and Germany, and lately by Mr. Walsh, of London. The mode of diffusing and drying the caoutchouc is kept as a secret. It is said, however, to be soluble in ether and in linseed oil: it may likewise be rendered fluid by cutting the substance into slips, and burning them; but the great difficulty is in retorting it to a state of solidity and dryness, so as to render the bougies useful after they are fabricated and covered with caoutchouc. These bougies, when properly made, are not only very flexible and smooth, but may remain a considerable time in the urethra without being greatly injured. When they crack, or become rough on their surface by repeated use, they are unfit for our purpose, and should be exchanged for new ones. See the articles Catheter and Caoutchouc.

It has formerly been the practice of some surgeons, in using any of the several kinds of bougies already described, to daub their surface over with different stimulating unguents, &c. And it has been imagined that the puriform discharge thus produced from the urethra, had a tendency to diffuse the callosity of the stoma or caruncle, which they supposed to be the occasion of the obstructed urine. Now this is an entire fallacy, founded on a fallacious theory; for neither is there any proof of the existence of such caruncles and callosities in the urethra, nor (if they really did exist) could the suppuration produced by such means afford material advantage. Any stimulating sub stance introduced into the urethra, for example a common plater bougie, may produce a discharge of matter, especially in very irriTABLE patients; but this discharge arises from the whole internal surface of the canal to which the bougie has been applied, and not exclusively, or perhaps, not at all, from the obstructed part where the stoma exists; and this suppuration is no more than the common result of the application of a mechanical stimulus, or foreign body, to a delicate secreting membrane. If that portion of the bougie which came into contact with the diseased part be covered with mucus or pus than any other, this circumstance is probably owing to a greater irritation or increafe of action in the secreting arteries of that part, in consequence of its preternatural irritability; but, by introducing a bougie composed of active ingredients, or smearing its surface over with acid materials, we excite an unhealthy action not only in the morbid part of the urinary passage, but also along the whole extent of the found surface. The reasoning here employed against so absurd a practice, will apply likewise against the use of what have been called "Medicated bougies," which have been ignorantly supposed to poxsee some healing or medicinal quality.

The only remaining bougies we intend to notice in the present article, are those which Mr. Smyth, an apothecary of London, has recently fabricated, of a flexible metallic composition. Although he has not published his invention, (if indeed it be a new compound of the metals,) we think
the instruments of Mr. Smyth deserving our consideration. Experience, in a great number of cases, warrants the use of them, and particularly those of a large size; on account of the extreme smoothness of their surface, the yielding or flexible property they have, without breaking, and the length of time which patients may wear the bougies (where it is necessary to retain them in the bladder) with ease to themselves, and without eroding the metal.

We cannot, however, divest ourselves of an objection, which has too much foundation in truth, against the small-sized metallic bougies, viz. that there is great danger of tearing or penetrating the urethra in passing them; so that they can hardly be trusted with safety in the hands of inexperienced persons, or even of young surgeons who may not be adepts in this line of practice. Mr. Smyth has certainly obtained very respectable testimonies in favour of his instruments; but, we think, on perusing his late publication, that the comparative advantages and disadvantages of these bougies are not always detailed with sufficient precision. Some of the objections, which were formerly made by one of the surgeons of the Lock Hospital, in the fourth volume of the London Medical Review, do not apply to the larger sized metallic bougies; and we are assured that, since the period alluded to, the inventor has improved the form of his instruments so much as to have obviated the little difficulties then suggested by Mr. Blair. It was our duty to lay this, in justice to the inventor; and we doubt not, that by further trials and observation, it will be found that Mr. Smyth's bougies and catheters are entitled to the patronage of surgeons in general. We do not mean to affirm, that they will exclude the use of all other kinds of bougies and catheters; but only that they are highly serviceable, (and even to be preferred to any others) in some particular circumstances of diseased urethra, or retention of urine, &c.

We refer the observations we have to make on caustic bougies for a future article on the subject of Structure, where the history and treatment of this morbid affection will properly come under consideration. In the interim, we refer our readers to the several publications of Mr. Home and Mr. Whatley; and to a paper, in the 18th number of the London Medical Review, p. 209, vol. iv. entitled "Reflections on the use of caustic substanctes and metallic bougies in strictures of the urethra, by Mr. Blair, surgeon of the Lock Hospital, &c."

BOUGIE, in Geography, lies on the coast of North Carolina, between Core Sound and Little Inlet.

BOUGINESE, or BONIANS, a denomination distin- guishing one of the various nations who inhabit the island of Cebuces. These and the Macaffers are the most known. The Bouginoes are at present the most powerful people in this island, though, about a century ago, they were not comparable with the Macaffers. They are of a middle stature, strong, and muscular, and of a light brown complexion. Some of them, especially the women, are nearly as fair as Europeans; and they have pleasing countenances, except that their noses are somewhat flatish. The females are ardently addicted to sensual pleasures, and ingenuous in every refinement of amorous gratification; and on this account, the Bouginoe girls are preferred, throughout the coast, both by Europeans and by Indians. The Bouginoes are generally called by the English Buggeffes.

BOUGLON, a town of France, in the department of the Lot and Garonne, and chief place of a canton, in the district of Marmande; 4 miles N. of Castel Jalous. The place contains 681, and the canton 5,547 inhabitants. The territorial extent comprehends 162½ kilometer, and 12 communes.

BOUGUER, Peter, in Biography, a celebrated mathematician, was born at Crofie in Lower Brittany, Feb. 19, 1698. He was the son of John Bouguer, royal professor of hydrography, and author of a complete treatise on Navigation, first printed in 1698, 4to. and reprinted in 1706. In this comprehensive and excellent work, the author correctly delineated the state of navigation at that period.

Bouguer, the son, was initiated by his father in the mathematics, at a very early age; and such was his proficiency, that at the age of 11 years, he instructed his regiment in the Jesuits' college at Vannes; and at the age of 13, he detected the error of a professor of mathematics, who, mortified at being thus exposed, quitted the country. Although he lost his father at the age of 15, and before he had finished his studies, he was thought competent to be his successor in the office of hydrographer; and he discharged the duties of it with great reputation, even at this early age. In 1727 he obtained the prize, proposed by the royal academy of sciences, for the best method of mapping ships; in 1729, that, for the best method of observing the height of the stars at sea; and in 1731, that, for the most advantageous means of observing the variation of the compass. In his piece concerning the best method of observing the height of the stars at sea, he affirms the honour of having been the first person who undertook to give a legitimate solution of the "Solar"; for he calls the curve, traced by a ray of the sun, in its descent through the atmosphere. But though he did not seem to have known it, Mr. Taylor, in his "Methodus incrementorum directa et inversa," had obtained, by an elegant analysis, a flucational equation, which gave all the points of the curve. However, Bouguer's method was the first that was applied to use for astronomical purposes. Bouguer, in his "Optical essay on the gradation of light," published in 1729, examined the intensity of light, and determined its various degrees of diminution, in passing through different pellucid substanctes, and particularly that of the air traversing through the atmosphere. An extract of this first essay was given by M. Mairan in the Journal des savans, for 1739. Dr. Priestley in his "History of light and colours," p. 544, &c. has given a particular account of Bouguer's observations on this subject. At Havre, whither he removed in 1730, he became intimately connected with several members of the Academy of Sciences; in the following year, he was chosen to succeed Maupertuis as associate-geometer; and in 1735 he was promoted to the office of pensioner-astronomer. On the 16th of May in this year, Bouguer left France, on a commission, in which he was joined with Godin and La Condamine, for measuring a degree of the meridian in South America; and he returned to his own country from this expedition in June 1744. Of his various operations, he gave an account to the French academy in November following; and this account was printed in the Memoirs for 1744, and afterwards in his treatise "De la figure de la terre." The principal scene of this laborious undertaking, was the Cordilleras mountains; and in the execution of it, Bouguer and his associates made many other important and useful observations, besides those that related to the immediate object of their commission. To Bouguer in particular, we are indebted for many curious remarks on the expansion and contraction of metals, and other substanctes, by the sudden change of heat and cold, among those lofty mountains; on the reflection of the atmosphere from their summits, and on the singular phenomenon of a sudden in-
create of refraction, when the star can be observed below the line of the level; on the laws of the different densities of the air at different heights; on the effect of the attraction of the moon on the small grains of a plummet; on the method of determining the places of navigators in computing their course and distances; on the new construction of a log for measuring the distance, and on a variety of other particulars; which, with those already noticed, will be duly noticed in the course of this work. Of his deliberation for determining the distances of the larger planets in a telescope with two objects, his experiments on the reflection of the pendulums, and his method of measuring the force of light, etc., we shall introduce an account in their proper

The principal works of M. Bouguer, that have been sep
parately published, are: "The figure of the earth, determined by the observations in South America," 1749, 4to.; "Treatise on navigation and pilotage," Paris, 1752, 4to., abridged by La Caille in one volume, 8vo., 1768; "Treatise on ships, their construction and motions," 1750, 4to., and "Optical treatise on the graduation of light," first published in 1728, and afterwards in 1769, 4to. The following detail of his chief communications to the royal academy, and of the volumes of the "Memoires," in which they may be found, will probably gratify the curiosity, and direct the researches of our mathematical and philosophical readers. Accordingly, we have in the "Memoires" for 1746, a comparison of the force of the solar and lunar light, with that of candles; for 1751, observations on the curvilinear curve of bodies in mediums; for 1752, upon the new curves called the "lines of pursuit," for 1753, to determine the species of conoid, to be constructed upon a given base, which is exposed to the shock of a fluid, so that the impulse may be the least possible; and a determination of the orbit of comets; for 1754, comparison of the two laws which the earth and other planets must observe in the figure, which gravity causes them to take; on the curve lines proper to form the arches in domes; for 1755, observations on the equinox; on the length of the pendulum; for 1756, on the length of the pendulum in the torrid zone; on the manner of determining the figure of the earth, by the measures of the degrees of latitude and longitude; for 1757, on the astronomical refractions in the torrid zone; observations on the lunar eclipse of September 8th, 1757, made at Quito; for 1744, short account of the voyage to Peru by the members of the royal academy of sciences, to measure the degrees of the meridian near the equator, and from thence, to determine the figure of the earth, a communication no less elegantly, than accurately written; for 1745, experiments made at Quito, and divers other places in the torrid zone, on the expansion and contraction of metals by heat and cold; on the problem of the sailing of ships; for 1746, treatise on ships, their structure and motions, (see Meticentre and Ship); on the impulse of fluids upon the fore parts of pyramidoïds, having their base a tra
pezium; continuation of the short account, given in 1744, of the voyage to Peru, for measuring the earth; for 1747, on a new construction of the log and other instruments for measuring the run of a ship; for 1748, of the diameters of the larger planets; the new instrument called a heliometer, proper for determining them, with observations of the fun; observation of the eclipse of the moon, Aug. 8th, 1748; for 1749, second memoir on astronomical refractions, ob
served in the torrid zone, with remarks on the manner of constructing the tables of them; figure of the earth, determined by Meißrs. Bouguer and Condamine, with an abridgement of the expedition to Peru; for 1752, observations of the lunar eclipse, Dec. 13th, 1750; for 1751, on the form of bodies, most proper to turn about themselves, when they are pushed by one of their extremities, or any other point; on the moon's parallaxes, with the diminution of the changes, caused in the parallaxes by the figure of the earth; observation of the lunar eclipse, Dec. 2d, 1751; for 1752, on the operations made by Cassini, called "Corrections;" for 1753, observations on the passage of mercury over the sun, May 6th, 1752; on the dilations of the air in the atmosphere; new treatise on navigation, containing the theory and practice of pilotage, or working of ships; for 1754, operations, etc., for distinguishing, among the different determinations of the degree of the meridian near Paris, that which ought to be preferred; on the direction which the string of a plummet takes; solution of the chief problems in the working of ships; for 1755, on the apparent magnitude of objects; second memoir on the chief problems in the working of ships; for 1757, account of the treatise on the working of ships; on the means of measuring the light. In the volumes of the prizes, given by the academy, are the following pieces by Bouguer; in vol. i. on the working of ships; in vol. ii. on the method of exactly observing at sea, the height of the stars, and the variation of the compass; also on the cause of the inclination of the planets' orbits. M. Bouguer was also for 3 years a writer in the Journal des Savans, to which he communicated several useful papers.

In his earlier years, M. Bouguer had lived in a state of seclusion from general intercourse with the world, and he had thus acquired a caly of temper, which marked his character in more advanced life. Although he was universally acknowledged to possess superior talents, and to be distinguished by an affability and zeal, no less successful than indefatigable, in various departments of useful science; he indulged a degree of suspicion and jealousy, with regard to his reputation, which differentiated some of those with whom he was under a necessity of associating, and which disquieted his own mind. Fully sensible of the importance and utility of his own performances, he was apt to consider others, who were engaged in similar pursuits, as competitors with himself, and to gudge them the reputation which they justly acquired, from an apprehension that his own credit would be thus diminished. Hence arose his disputes with La Condamine, one of the companions of his voyage, and associate in his labours in America; and the mortification he experienced from the public suffrage that seemed to have been belittled on that academicians. It is much to be lamented, that mean jealousies of this kind should fill among perfons, distinguished by their literature and science; because they are not only discrepant to themselves, but injurious to the advancement of useful knowledge. M. Bouguer, after a course of incessant application, which undermined his health, cloathed his life on the 15th of August, 1753, at the age of 60 years. Mem. of the French Academy, 1758. Nouv. Dic. Hist. Montuval, "Histoire des Mathematiques," by De La Lande, tom. iv. Gen. Biog. BOUHIER, John, a penman of eminent literary character, was born at Dijon, in 1673; and first educated at a jetté fermé, where his extraordinary talents for languages were carefully cultivated. The peculiar studies of his profession were prosecuted at Paris and Orleans, whence he returned to Dijon, and began the excercice of it in 1673. Here he distinguished himself by his professional practice, and was admitted into the parliament, succeeding his father in the office of president à mortier. As he devoted his leisure
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Leisure hours to literary inquiries, he was well known to the learned, and in 1727, was unanimously elected a member of the French academy. But afflicted with the gout, he was under the necessity of resigning his office of president à mortier; and, in 1746, this disorder, seizing his stomach, terminated his life. He was much respected on account both of his private and public character; and his literary performances, published separately and in the memoirs of different societies, are very numerous. Some of the principal are, "A translation, in verse, of Petronius on the civil war, and of some passages in Virgil and Ovid." with very learned notes; "A translation of Cicer's Tuculian Questions," in connection with the abbé d'Olivet; the 2d and 3d are by Bouhier; and he also annexed learned notes and corrections to the translations of other Cicer's works; "Letters on the effects of Therapeutics," and "Difficulties on Heroeotus." In his own profession his principal work is "The custom of Burgundy," 2 vols. fol. 1746; and a "Tractate on dissolution of marriage on occasion of impotence," extolled by the curious. Nouv. Dict. Hist. Gen. Biog.

BOUHOURS, DOMINIC, a learned Jesuit and critic in the French language, was born at Paris in 1628; and having taught for some time in the colleges of the Jesuits, became preceptor to the young prince of Longueville, and to the marquis de Seignelay, son of the famous Colbert. He died in the place of his nativity, in 1752. His first work, which was an agreeable milleflony on subjects of taste, entitled "Les entretiens d'Arlette et d'Eugene," appeared in 1671, and was at first much read. His other principal works are, "Remarques et doutes fur la langue Françoise," 3 vols. 12mo.; "Manieres de bien penser pour les voyages," 12mo. much commended by Voltaire; "Pensées ingenieuses des anciens et des modernes," 12mo.; 3 vols. "Live of the grand-mastery of Aubusson, of St. Ignatius, of St. Francis Xavier, by mad. de Bellefond, and translations of some books of devotion, in some of which he manifests his attachment to the Jesuits, though with less credibility than that of others. His manners were polite; but his criticisms, though he was a general apologist, involved him in some literary disputes. Nouv. Dict. Hist.

BOULICERVS, of French authors, in Zoology, their Biskul and antilope l Bulletin. of Linnaeus.

BOVINAM, in Ancient Geography, Boiano, a town of Italy, in Samnium, situated on the mountains. It was taken several times by the Romans; became a Roman colony, and possesscd the advantages granted by the Julian law. See Bojano.

BOUJEAYH, in Geography. See Bugia.

BOULLAC, a town of France, in the department of the Upper Garonne; 3 leagues N. W. of Grenade.

BOULLAC, in Ancient Geography, Marinu, a town of Italy in Latium, situated at the 16th mile in the Appian way, and built after the destruction of Alba, by the Albans. It became a considerable place, as is indicated by its ruins, among which is a temple dedicated to Augustus. Near this city Claudius was slain by order of Milo; and here they celebrated games in honour of the Julian family.

BOULLE, J. A. in Geography, a town of France, in the department of the Lower Seine; 2 leagues S. W. of Rouen.

BOULLEN Menard, a town of France, in the department of the Maine and Loire, and chief place of a canton, in the district of Segrez; 2 leagues N. W. of Segrez.

BOULLEROT, or Bouilierot, in Ichology, common names of several fishes in France, but more especially of Gobius niger; the Cyprinus goiis and Blennius pholis bear the same name.

BOILLET, John, in Biography, born at Servian, in the diocese of Beziers, the 14th of May 1690, and created doctor in medicine, at Montpellier, in 1717, enjoyed, during the course of a long life, spent in the study and practice of medicine, at Beziers, a considerable portion of reputation. He was, in succession, made professor in mathematics; and secretary to the academy at Beziers; member of the royal society at Montpellier, and corresponding member of the academy of sciences at Paris. He was also author of several ingenious dissertations. "On the properties of Rhubarb," published at Beziers 1715, 4to, probably his "Inaugural Thesis." "Sur la cause de la peste africaine," 1729, 8vo., which obtained for him a prize from the academy at Bourdeaux; "Avis et remedes, contre la peste," Beziers, 1731, Svo. "On althium and the gout," in which he commends the preference of the Venice soap as a powerful auxiliary; "Sur la maniere de traiter la petite verole," Beziers, 1736, 4to., and some years after, "On the best method of preparing the district of Beziers from that disease;" "Recueil des lettres, et autres pieces pour servir a l'histoire de l'academie de Beziers," 1756, 4to., with several other publications; for the titles, see Eloy Dict. Hist. He died in 1770.

BOULLET, HENRY NICHOLAS, his son, was born December 6th, 1729. Treading in the steps of his father, he was made doctor in medicine, at Montpellier, and member of the academy of Beziers. He published, in 1753, 4to., "Observations sur l'anaphore, le hydropoése de poutarme, des piccardes," &c. Halleer. Bib. Botan.

BOULLEUR DE CANARI, in Ornithology, the principal name by which the Amar bird is known among the creoles and negroes in Guiana.

BOULLON, among Forriers, a lump of excrement of flesh, growing either on or just by a bovine's flesh, and making him halt.

BOULLON, in Geography, a town of France, in the department of the Ardennes, and chief place of a canton, in the district of Sedan; the place contains 1,878, and the canton 4,314 inhabitants. The territory comprehends 167 square kilometres, and 17 communes.

BOULLY, a town of France, in the department of the Aube, and chief place of a canton, in the district of Troyes; 7 miles S. of Troyes. The place contains 750, and the canton 9,310 inhabitants. Within the territory are 252 square kilometres, and 29 communtes.

BOVIN, or Bovving ifan, an island of France on the coast of Lower Poitou, south of the river Loire. It is wholly covered with salt pans.

BOVINA, Affectio. See Affectio.

BOVINA, in Zoology, a species of Tania, found in the viceroy and liver of cattle. This kind is simple, with the vehicle large; body short, with imbricated scales. Barthol. Hist. Anim. Cent. Corea, &c.

BOVINO, in Geography, a city of Naples, in the province of Capitanata, and seat of a bishop, suffragan of Benevento. It stands very high, on the south side of the river Ceravo. It is a duchy belonging to the Gueraus, one of the Spanish families that followed the fortunes of Alphonse the magnanimous.

BOVIS, in Entomology, a species of Phylldrus, with which cattle are infested. Linnaeus distinguishes it by the eight transverse ferruginous lines on the abdomen. Linn. Fl. Succ.

BOVIS, a species of Oestrus, with brown, unsotted wings; abdomen black, white at the base, and at the tip fulvous. Fabr. &c. See Bottle, Gan. fly, and Oest-

BOUSSE, in Geography, a town of France, in the department
part of the Aude, and chief place of a canton, in the district of la Graffe; 3 leagues S. W. of la Graffe.

**BOVISTA.** In Botany. See Lycoperdon.

**BOVITUM,** in Ancient Geography, a place in the second route of Antonine's itinerary, placed by some antiquaries at Bangor-Monachorum; by others at Bovery, and by Mr. Harliff somewhere near Stratton, at the distance of about 10 miles from Chester. But its true situation is unknown.

**BOVIUS,** Thomas, in Biography, an emiracy of a noble family in Italy, lived in the middle and at the end of the 16th century. He called himself Zephrileme, the same he gave to a tutular spirit, who, he pretended, watched over and affixed him. He was well stored with general learning, but applied particularly to the study of the law, of medicine, and of chymistry. He wrote against the regular physicians, and boasts of the success of his practice. He contrived an elaborate and concentrated preparation of mercury and gold, first dissolved in a kind of aqua regia, which he called his Hercules. With this he professed to cure malignant and pestilential fevers, the plague, and the lues venera. He condemned the method used in making the decoction of the woods, by which their volatile parts, in which he contends their virtue reside, were diaphraged. He cured epilepsies with a preparation of antimony, and superseded menyes with helbicolor.

He expelled a tape worm from one of his patients; measuring, he lays, fifty yards in length. He condemns bleeding, except in certain aspects of the heavens. He prepared "aurum potabile," with which he pretended to have performed great cures. He laughs at Capivaccius, who had dismission a patient as incurable, whom he afterwards restored to health. He was addicted to alchemy, and acknowledges he was indebted for much of his knowledge to Arnold de Villanov. He pretends to have cured upwards of 7,000 patients. But notwithstanding his boasting, Claudius Gelchis, who undertook to refute him, in a small tract, since joined to Bovius's works, shows he was no physician, and that he was very little confused. The titles of his works are, "Flagello contro de medici communi detti rationali," 4to. Venc. 1583; "Fulmine contro de medici putatiti rationali," 4to. Verona, 1592; "Melampygo, o vero confusione de medici solittii e del Claudia Gelli," Verona, 1595, 4to. He discovered that a disease, affecting the inmates of a monastery, was occasioned by their cooking their food in copper vessels, not well tinned. His works, which separately passed through several editions, were collected and printed at Venice, in 1626, 12mo. Haller. Bib. Med. Pratica.

**BOUKA,** in Geography, an island of the Pacific ocean, so called by Bougainville, from the frequent use of this term among the natives, separated by a narrow channel from Bougainville island. It is sometimes called lord Anson's island. The vast plantations of cocoa-nut trees which adorn its shores, indicate a numerous population. The natives are dextrous in the use of their canoes: they seem to be acquainted with the method of barter; and from the value which they affix to nails and other articles of hard-ware, they indicate a knowledge of the use of iron. They are addicted to gaiety, and passionately fond of mufic, especially of the most brisk and noisy tunes. The colour of their skin is blackish; they are of a middling stature; and their mufcles distinctly seen as they are naked, indicate great strength. Their figure, though not very agreeable, is very expressive. Their heads are very large; their foreheads broad, like the other parts of their faces, which are very flat; their chins large and prominent, their cheeks full, their noses flat, their mouths very wide, and their lips thin; their ears are loaded with large rings made of shell, by which they are very much extended. Some have red and white streaks traced upon their bodies; and some have bracelets formed of the fibres of the coocnut husk. Their hair is curled, thick, and bulky; and they pluck the hair from every other part of the body. They handle the bow with much address; and their industry seems to be particularly directed to the fabrication of their arms. Their canoes are formed of several planks, ingeniously contructed, and adapted for a quick motion. The north point of Bouka is in S. lat. 5° 41'; and 154° 28' E. long. Labillardiere's Voyage in search of La Péruse, vol. i. p. 375, &c.

**BOULAC,** Boulaq, or Bulaq, a large, irregular, and pleasant town, about 2 miles long, but not very wide, built on the east side of the harbour of Grand Cairo, and about half a league distant from it. The road leading to it appears to be one of its streets; and the crowd and bustle of the place indicate the entrance of a populous and commercial city. Boulaq is the port of Lower Egypt, as well as of Cairo, as Mir-el-Attie is of Upper Egypt; and here all the merchandize is landed which comes from Damietta and Alexandria. It contains magnificent public baths, and large "Okals," which are square buildings, round a great court with a portico, that supports a winding gallery. The ground floor is composed of spacious warehouses; and the next floor contains apartments without furniture and without ornament. These okals are inhabited by strangers, who there deposit their merchandize. One single gate, like that of the citadel, secures them from insult at the time of the revolts. These okals are the only inns to be met with in Egypt. The traveler is obliged to furnish them, and dres their victualls there; for in this country a dinner is not to be had for money. The okal built by Ali Bey the great, and called the Alexandrian okal, is equally extensive and convenient, and chiefly used for goods brought from that city. From all the houses at Bulaq thousands of boats may be seen at anchor, of every shape and of every size. Some of them are strong and solid, and have two masts, and are employed in transporting merchandize. These have usually a large chamber for the passengers. Others, lighter and without deck, only serve to convey the people from one shore to the other. Those which are used in voyages of pleasure are adorned with painting and sculpture, and have handsome apartments covered with carpeting, and sheltered from the sun. In these the rich amuse themselves by breathing that cool air, which is incessantly supplied by the Nile. With a favourable wind, and when the hail is spread, these light vessels seem to fly upon the water; but when the wind is contrary, a number of robust men row them with great rapidity. Cleopatra, who knew the charms of these water-parties, and the variety of landscapes which diversify the verdant banks of the Nile, engaged Caesar in one of them, and carried him even into Upper Egypt. Gardens occupying the fertile grounds between the branches of Bulaq, and between this port and Cairo, afford an ample supply of fruits and vegetables. In the middle of the river, nearly over against Bulaq, is an island, where Murad Bey has a kind of prospect house, or place of retirement, and here are also several gardens. Opposite Bulaq, upon the west bank of the Nile, is the small village of "Emabah," or "Emhabil," composed of wretched round huts of earth under the yacamo trees, by which they are propped. Some few houses of brick hardened in the sun, and a small mosque, loke themselves at a distance, among the foliage of date and tamarind trees. This village is famous for the excellent quality of its butter, with which it supplies the inhabitants of Cairo; and, indeed, it is the only place in Egypt where butter can be eaten fresh; every where else, in that country,
it is good for nothing. The fertile plains adjacent to Embab, on the westem side, are enriched with several kinds of culture; and in particular they produce a fort of lupins, of the seeds of which there is a great consumption in Egypt. These are boiled with salt and water, and eaten, after being stripped of the thick and hard skin with which they are covered. They are sold ready dressed in the streets and markets. By the Christians in the cafè, lupins, called "Embabens," from the place of their growth, are eaten as a stimulus for drinking barley. Flour is also made of them, which is adapted to clean the hands and soften the skin. The flakes, reduced to flour, is preferred to other charcoal in the composition of gun-powder.

Half a league to the north-call of Boulac is the old castle of "Helle;" so called, probably, from "Heliopolis," not far distant; it is now falling into ruins. Here the Beys, attended with brilliant retinues, receive the new pacha, to conduct him in pomp to the prison, whence they have just expelled his predecessor. In the environs of Helles are spacious inclosures, where orange, lemon, and pomegranate trees grow luxuriantly, and form, with fycamores and palms, bowers and groves of delicious fragrance and refreshing coolness. Savary, Sonnini, Brown.

BOULAI, CAESAR-LASSE DE, in Geography, regifter, historiographer, and rector of the university of Paris, was a native of St. Etienne, in Maine, and became, for many years, professor of rhetoric in the college of Navarre. His treatise of rhetoric entitled "Speculum eloquentiae," was much esteemed; and he also published, in French, a "Thesaurus of Roman antiquities," fol. Paris, 1639; but he acquired his highest reputation from a "History of the university of Paris," in 6 vols. fol. containing, indeed, many fabulous relations with regard to the early periods of the university, but much curious information concerning the lives and writings of the literati of France, and of other countries. Boulay wrote Latin verses with tolerable ease and purity. He died in 1678. Gen. Dict.

BOULAINVILLIERS, HENRY DE, count de St. Saire, &c. was born at St. Saire, in 1658, and educated in a seminary of the fathers of the oratory. His first profession was that of arms, which he quitted on the death of his father, and an account of the deposed state of his domestic affairs. From this time he ardently pursued his favourite studies of history and genealogy, both for his own amusement, and the instruction of his children. Voltaire, qualifying his commendation by ascribing to him that attachment to fyltem, which perverted his narrations, says of him, that he was the most learned gentleman in the kingdom, with respect to history, and the best qualified to write that of France. But Montesquieu, as well as the president Hénault, have entirely rejected his assertions concerning the commencement of the French monarchy; and the former characterizes him as "polleing more wit than understanding, and more understanding than knowledge." Such was his respect for nobility, that he entitled the feudal system, "the matter-piece of human art." Inclined as he was, in some respects, to freethinking, he had his systematic prejudices, and avowed his faith in judicial astrology. In all his writings, however, his intentions seem to have been those of a good citizen. His works are, "A History of France, to the reign of Charles VIII," 3 vols. 12mo; "Hitorical Memoirs on the ancient government of France, to the time of Hugh Capet;" "History of the Peage of France;" "Differtations on the Nobility of France;" "State of France," 6 vols. 12mo; "Memoir on the Administration of the Finances." 2 vols. 12mo; "History of the Arabs and of Mahomet," left unfinished, but published after his death, both at London and Amsterdam; in which work, it seems to have been his aim to represent Mahomet as a hero, and an accomplished statesman; but in doing this, he has deviated much from true history. This work subjected him to the suspicion of indifference with regard to Christianity but the Catholics have endeavoured to adduce attestations to his piety, at the time of his death, which happened in 1722. All his works on French history have been collected in 3 vols. folio. Nouv. Dict. Hist.

BOULAN, in Geography. See BULAM.

BOULANCHIR, a town of Aftatic Turkey, in the province of Adahulia, 20 miles S. W. of Malatia.

BOULANGER, NICOLAS-ANTHONY, in Biography, was born at Paris, in 1721, and devoting himself to the study of mathematics and architecture, he accompanied the baron de Thiers to the army, as engineer. On his return, he was employed in the construction of bridges and caissons, and executed various public works in Champaigne, Burgundy, and Lorraine. From contemplating, in the exercise of his profession, the changes which have taken place in the surace of the earth, he was led to extend his views and researches to the changes of manners, government, and religion; and, in order to acquaint himself more accurately and extensively with these subjects, he applied to the revival, or improvement, of his knowledge of Greek and Latin, and to the study of the oriental languages, both ancient and modern; and if his life had been prolonged, he would have become one of the most learned men in Europe. His speculations, however, inclined him to freethinking; and of this he gave evidence in various publications. Such were, "A Treatise on Oriental Delphins," "Antiquity Unveiled," published after his death; "Christianity Unveiled," not ascertained to have been written by him; "A Differtation on Elyas and Enoch." He also contributed to the Encyclopaedia the articles "Deluge," "Corree," and "Society." He died in 1759. Nouv. Dict. Hist.

BOULANGER, JOHN, an engraver, who flourished about the year 1657, was a native of France. His first manner of engraving was partly copied from that of Francis de Poilly; but he afterwards adopted a manner of his own, which, though not original, he greatly improved; and, accordingly, he finished the faces, hands, and all the naked parts of his figures very neatly with dots, instead of strokes, or strokes and dots. This style of engraving has been of late carried to a high degree of perfection, particularly in England. Notwithstanding several defects in the naked parts of his figures, and in his draperies, his belt prints are deservedly much esteemed. Such are "A Holy Family," from Fran. Corlet; "Virgin and Child," from Simon Vouet; "The Pompos Cavalcade," upon Louis the XIV. coming of age, from Chauveau; "The Virgin with the infant Christ," holding home pinks, and therefore called "The Virgin of the Pinks," from Raphael; "The Virgin of Paffau," from Salario; "Christ carrying his Croze," from Nicolas Mignard; "A dead Christ, supported by Joseph of Arimathesus." He also engraved many portraits, and, among others, that of Charles II. of England. He likewise engraved from Leonardo de Vinci, Guido, Champaigne, Stella, Coypel, and other great masters, as well as from his own designs. Strutt.

BOULAR, in Ornithology. Cotgrave has the long-tailed titmouse, parus castatus, under this name.

BOULAY, in Geography, a town of France, in the department of the Molsfick, and chief place of a canton, in the district of Metz; 43 leagues N. E. from Metz. The place contains 2,609, and the canton 12,813 inhabitants: its territorial extent comprehends 275 square kilomelres, and 37 communes.
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BOULACCA, among the modern Greeks, denotes the spirit of some wicked person who died excommunicated by the patriarch, re-animated by the devil, and causing great disturbances among the people: of which many strange stories are told. The word is Greek, and is sometimes written ψευδακτης, ψευδακτορ; and supposed to be derived from ψευδής, or ψευδώ, ψευδών; and λαός, a district, on account of the wildness of the fight.

BOULDER wall, a building, a kind of walls, built of round flints or pebbles, hid in a strong mortar; used where the sea has a beach call up, or where there is plenty of flints.

BOULUC, Simon, in Biography, an eminent apostate and chemist of Paris, and for many years demonstrator in Chemistry, and associate in the Royal Academy of Sciences, furnished the memoirs of that society with numerous dissertations, containing analyses of the most popular and valuable vegetable productions used in medicine, which are still valued for their neatness and accuracy. The principal are, the analysis of ipecacuanha and of colocynth, published in the memoirs of the academy for the year 1701; of jahal, helbore, and fociotrine aroses, in 1708; of catechu, (terra japonica) 1710; shewing this substance to be a vegetable production, and not an earth, as it had been esteemed; of rubarb and opium, published in 1712; of the cucumis agrilis, in 1719. He made an extract from the wild cucumber, which was a powerful hydragogue, and which might be given in doses of 24 grains, with perfect safety; also an elixirium, the dose of which was fix grains. He died, far advanced in years, in 1729. His son.

BOULUC, Giles Francis, born at Paris, February 28th, 1675, succeeded to his honours and appointments, and continued the same line of rearch. His effays, containing analyses of several purging fluxes, and of some mineral waters, were also published in the memoirs of the Royal Academy of Sciences. He died at Verailles, the 17th of January, 1742, much regretted by the king and queen, to whom he had been many years apothecary. Haller Bib. Bot. Eloy Dict. Hist.

BOULEAU Lake, in Geography, a lake of North America, in the vicinity of Bear Lake, with which it communicates by rivers and small lakes. This lake might, with greater propriety, be called a canal, as it is not more than a mile in breadth. Its course is rather to the east of north for 33 miles, to Portage de L'Ile. The Bouleau Portage is in N. lat. 45° 50'.

BOULENE, a town of France, in the department of the Gard, five miles E. of Pont St. Epirit.

BOULETERANES, a town of France, in the department of the Eastern Pyrenees; 12 miles W. of Perpignan.

BOULEY BAY, called also Trinity Bay, lies on the N. E. point of the island of Jersey, and E. from Donnington.

BOULMY, in Medicine. See BULBY.

BOULINIS, or BOULIGNIS, in Commerce, a copper coin struck at Bologna, in Italy, equivalent to the IACOCO.

BOULKI, in Geography, a town of Poland, in the pala
tinate of Lemberg; 16 miles S. E. of Lemberg.

BOULORE, a town of France, in the department of the Sarthe, and chief place of a canton, in the district of St. Calais: the place contains 1400 and the canton 9,411 inhabitants: its territory includes 160 kilometres, and nine communes: five leagues E. of Le Mans.

BOULONGNE, LOUIS DE, the elder, in Biography, a painter, was born at Paris in 1609; and though he was principally distinguished for his ability in copying the works of the most famous ancient painters, and in preserving a very striking resemblance, he painted historical subjects of his own invention and design; of these there are three in the church of Notre Dame, in Paris, viz. "St. Paul at Ephesus," "the Martyrdom of St. Paul," and "the Prefentation of Christ in the Temple." He was painter to the king, and professor in the academy. He died at Paris in 1674.

BOULONGNE, BON DE, son of the former, was born at Paris, in 1649, and acquired the principles of painting from his father, whom he rendered in his talent of imitating the works of the greatest masters, and this he did to such a degree as to deceive the best judges. On his return from Italy, where he continued five years, he was admitted into the academy, of which he became a professor, and employed by Louis XIV. at Versailles and Trianon. He excelled in history and portrait; his designs were accurate, and his colouring good. Indulgent in his profession, though lively in his temper; he promoted industry among his pupils, in whose improvement and success he warmly interested himself. Besides his paintings in fresco, in two of the chapels of the Invalids, he painted several pieces for the churches and public buildings of Paris, several of which have been engraved. We have also three etchings done by him, from his own compositions, viz. a species of "Almanack," "St. John in the Desert," and "St. Bruno in a landscape," its companion. He died at Paris in 1717.

BOULONGNE, LOUIS DE, the younger, brother of the former, was born at Paris, in 1654, and educated under his father, by whose instruction he made such improvement, that he obtained the prize of the academy at 18. His studies were completed at Rome, where he particularly stu-
died the works of Raphael, and from his copies which were sent home, the Gobelins tapestries were executed. After his return he was received into the academy in 1680; and his works in the churches of Notre Dame and the Invalids, and particularly his frescos in the chapel of St. Augustin, were so much esteemed, that Louis XIV. honoured him with his special patronage; allowing him a considerable pen-
sion; conferring upon him the order of St. Michael; choos-
ing him designer of medals to the Academy of Inscriptions, after the death of Anthony Cupel; appointing him his principal painter, and embooling him and all his descendants: The Academy of Painting also chose him for its rector, and afterwards director, which place he occupied till his death. He chiefly excelled in historical and allegorical sub-
jects. From his performances it appeared, that he had care-
fully studied the most eminent masters; his colouring was strong, his composition was in a good style, the airs of his heads had expression and character, and his figures were cor-
rectly designed. Two of his historical paintings in the church of Notre Dame, are particularly distinguished, viz. "Christ and the centurion," and the "Good Samaritan." His etch-
ings, of which there are a few, are spirited and free, but incorrectly drawn. Among these are the "Scourging of St. Andrew," from Paolo Veronese; the "Martyrdom of St. Peter," and the "Martyrdom of St. Paul," his companion, from his own composition. His regular attendance at the academy, and his advice to the students, commanded respect; and the general mildness and affability of his dispo-
sition engaged esteem among those who knew him. He raised a considerable fortune by his profession, and died in 1734. Two sisters of this family, "Genevieve," and "Mag-
dalen," painted well, and were members of the Royal Aca-

BOULONNIS, in Geography, a country of France, so called before the revolution, in the northern part of Picardy, of which the capital was Boulogne.

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BOULOGNE, or Boulogne-sur-Mer, a city and sea-port of France, lying in a bay of the same name, in the English channel, and chief place of a district, in the department of the Straits of Calais. The city is computed to contain 19,538, and the canton 16,199 inhabitants; the territory comprehends 70 kilometres and 8 communes. Boulogne is divided into the upper and the lower town; the upper, and smaller, is seated on the declivity of the chalk mountain, and surrounded with walls; the lower town lies nearer to the sea, has no walls, is larger, and contains a greater number of inhabitants than the other. By its connection with the harbour, formed by the river Laine, it monopolizes almost the whole of the trade. Before the revolution it was the seat of a bishop, suffragan of Rheims, the seat of a governor, a commandant, a king’s lieutenant, &c. The entrance into the harbour is difficult, and defended by a small fort; but ships of war can proceeds no farther than the road of St. John, and trading ships can only enter it with the tide. In the road there is good anchorage, sheltered from easterly winds, in five to fifteen fathoms, and a clean hard sand; 1 4th to the northward of the village it is foul and ftony ground; and there are some small rocks along the coast, so that ships must not approach too near the southward of the road. The English channel, from about Romney to the bottom of the bay of Boulogne, is about 30 miles wide; and this short distance was formerly favourable to the smugglers of English wool. Boulogne is the "Getaeicum" of the ancients, and it was denominated "Bononia" under the Latins. The famous Pharos, or light-house, at this place, was erected of an octagonal form, about 200 feet in circumference, and 66 feet in diameter, by Caligula, and it was repaired by Charlemagne in 810. In 1743, when the English took this city, they surrounded the ancient structure with towers; and it was thus preferred till the 29th of July 1443, when the whole of it fell, and nothing now remains but rubbish. Mr. Lyon, in his "Observations on the ancient Portus licius," where Julius Cæsar embarked for Great Britain, contends (see Archæologia, vol. v.), that this could not have been Calais, nor any place to the eastward of it, but that it went to the westward, and at Boulogne. From a piece or two, which he procured, of the materials of the ancient structure above mentioned, he infers that the pharos was constructed at Boulogne of a petrification called by the ancients tophus, and that it is of the same kind with that used in the construction of the other light-house, built by the Romans on the hill at Dover, which still exists, though gradually sinking into decay. N. lat. 50° 43′ 33″. E. long. 1° 36′ 33″. "High-water 13° 30′.

BOULOGNE, a town of France, in the department of the Upper Garonne, and chief place of a canton, in the district of St. Gaudens; 4 leagues N. of St. Gaudens. The place contains 1,476, and the canton 10,622 inhabitants; the territory comprehends 2473 kilometres, and 25 communes.

BOULTON, J. F., a town of France, in the department of the Eastern Pyrenees, taken by the Spaniards in 1793; and re-taken in 1794; 4 leagues south of Perpignan.

BOULTER, Hugh, in Biography, a prelate eminently distinguished by his charity and public spirit, was born in or near London, in 1671, and from Merchant-Payler’s school removed to Christ-church college in Oxford, whence he was elected, together with Addington, a demy of Magdalen college, of which he afterwards became fellow. By the influence of lord Sunderland, he obtained his first ecclesiastical promotion to the parsonage of St. Olave in Southwark, and the archdeaconry of Surrey. In this situation he remained, addidiously discharging his pastoral duties, for several years;

but in consequence of having ingratiated himself with king George I., when he accompanied him to Hanover, in 1719, as his chaplain, he obtained, by royal favour, in that year, the bishopric of Bristol, and deanery of Christ-church, vacated by the death of Dr. Smalridge. In 1724, he was urged by the king’s absolute commands to accept the archbishopric of Armagh, and primacy of Ireland; in which trying station he manifested that wisdom and firmness, which were peculiarly fitted to the distracted condition of the country. Intent upon promoting the true interests of that country, he pursued every measure which prudence or benevolence could suggest for this purpose. In 1728, and again in 1740, he diverted the horrors of famine, and liberally supplied the necessities of the poor from his own fortune. He also exerted himself in teaching and converting the poor natives, and, with this view, in promoting the establishment of the protestant charity-schools. His popularity, indeed, for some time declined, in consequence of a plan, which ultimately proved beneficial, for remedying the scarcity of silver, by diminishing the value of gold coin; but it was not long before he regained the public favour, in a manner that he left behind him a character highly respected and beloved. Nevertheless, he always inclined to the English interest, in opposition to the Irish, and recommended to the English government a steady adherence to it in all their favours and promotions. As Dr. Swift was attached to the contrary interest, he thought unfavourably of him, and preferred him to the minifters in England, as a dangerous and mischievous person. However, through the opinions of these great men were discordant, they both probably aimed at the same object, or the good of Ireland. The prime was on no occasion actuated by a party-spirit, but wished by the aid of any connections to do all the good in his power. His whole life was devoted to business; and when he was, for the 13th time, one of the lord’s justices of Ireland, he had occasion to visit England, and died there in 1742. He was interred in Westminster abbey, and a splendid monument has been erected to his memory. A collection of his letters to ministers of state, and others, was published at Oxford in 1709, in 2 vols. 8vo, containing much information with regard to Irish politics during his primacy. Biog. Brit.

BOUTINE, or Boltel, in Architecture, the workman’s term for a convex moulding, whose periphery is just 4 of a circle placed next below the plinth, in the Tunic and Doric capitals.

BOULTON, Richard, in Biography, a practitioner in medicine and surgery, of the city of Cheltenham, published "A Treatise on the Causes of muscular Motion," 1697, 12m. He attributes the action of the muscles to a sort of fermentation, arising from the commixture of the blood and the nervous fluid, in certain glands, which he supposed to exist in the fibrous part of the muscles; a doctrine nearly similar to that held by Borelli. "A System of rational and practical surgery," 1715, 8vo. This is taken principally from the works of Woffington, of which it is little more than an abridgment. "A Phystico-mechanical Account of the Gout, King’s Evil, &c." 1715, 8vo. London; and an "Effuy on external remedies," published about the same time. Hall. Bib. Med. et Chir.

BOULUE, in the Military Orders of the Turks, a body of the janizaries, with an officer in the place of a colonel at their head, sent upon some particular enterprise; they are selected out of the body for this, and, for this reason, are received again into their former companies.

BOUNCE, in Idiography, a name given by the people of the western parts of England, to a species of the mark.
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tribe; the _faunulus cantica_ of Linnaeus; _centuria major vulgaris_ of Ray and Willughby; _greater dogfish_ of English writers. See _Canula_.

BOUND, in _Dancing_, a spring from one foot to the other, by which it differs from a hop, where the spring is from one foot to the same. It also differs from a half couplet, as, in the latter, the body always bears on the floor, either on one foot or the other; whereas, in the bound it is thrown quite from the floor.

BOUND-masonry. See Masonry.

Bound, hide. See Hide-bound.

Bound, hoof. See Hoof-bound.

Bound-falffs. See Ballife.

Bounties of an Eclipse. See Eclipse.

Bounds of lands. See Abutials.

BOUNDARY Columns. See Column.

BOUNTY, in _Commerce_, denotes a premium paid by the government to the exporters of certain commodities, on their taking oath, or, in some cases, giving bond, not to re-land the same in England.

Bounties, as they respect the fisheries, are either _perpetual_ or _temporary_. The former are payable on the export of pilchards, or shads, cod-fish, ling, or hake, whether wet or dried, salmon, white herrings, red herrings, and dried red sprats, being of British fishery and curing. _Stats. c._ 18. § 6. 26 Geo. III. c. 81. § 16. The latter are payable on the tonnage of ships carrying on the British and Greenland fisheries; on the quantity of fish taken in the British and Newfoundland fisheries; on the quantity of oil, head-matter, blubber, and whale-fins, taken in the Southern whale-fishery, and on the export of pilchards. See Fishery, and Navigation _Ad._ The bounty on cordage manufactured in Great Britain, not less than three tons, is 3s. 4d. per cwt. 6 Geo. III. c. 45. 26 Geo. III. c. 85. 51 Geo. III. c. 63.

Bounties have been granted by several statutes on the exportation of corn, when it does not exceed stipulated prices at the port of exportation.

Bounties upon exportation, considered in a more general view of them, are, in Great Britain, frequently petitioned for, and sometimes granted to the produce of particular branches of industry. By means of these our merchants and manufacturers are supposed to be able to sell their goods as cheap or cheaper than their rivals in the foreign market; and a greater quantity, it is said, will thus be exported, and the balance of trade consequently turned more in favour of our own country. They serve, as those who favour them maintain, the purpose of a kind of premium, inducing foreigners to buy our goods, and in this manner to enrich the whole country, and put money into all our pockets by means of the balance of trade. Bounties, it is allowed, says Dr. Smith (Inquiry into the Nature and Causes of the Wealth of Nations, vol. II. p. 261, 18c. ed. 6.), ought to be given to those branches of trade only, which cannot be carried on without them. But every branch of trade, in which the merchant can sell his goods for a price which repays him, with the ordinary profits of stock, the whole capital employed in preparing and sending them to market, can be carried on without a bounty. Those trades only require bounties, in which the merchant is obliged to sell his goods for less than it really costs him to send them to market; and the bounty is given in order to compensate this loss, and to encourage him to continue, or perhaps to commence, a trade, of which the expense is supposed to be greater than the returns, so that every operation consumes a part of the capital employed in it.

An ingenious author, in his " _Tracts upon the Corn-

Trade," has clearly shewn, that since the bounty upon the exportation of corn was first established, the price of the corn exported, valued moderately enough, has exceeded that of the corn imported, valued very high, by a much greater sum than the amount of the whole bounties which have been paid during that period. Hence he infers, that upon the true principles of the mercantile system, this forced commerce is beneficial to the nation; the value of the exportation exceeding that of the importation by a much greater sum than the whole extraordinary expense which has been incurred by the public in its exportation. But Dr. Smith argues, that this extraordinary expense, or the bounty, is the smallest part of the expense which the exportation of corn really costs the society. The capital employed by the farmer should also be taken into the account; and unless the price of the corn, when sold in the foreign markets, replaces, not only the bounty, but this capital, together with the ordinary profits of stock, the society is a loser by the difference, or the national flock is so much diminished.

But the very reason for which it has been thought necessary to grant a bounty, is the supposed insufficiency of the price to do this. It has been said, that the average price of corn has fallen considerably since the establishment of the bounty. But, allowing this to be the case, it must have happened, says Dr. Smith, in spite of the bounty, and cannot possibly have happened in consequence of it; and he traces this gradual fall in the average price of corn to that gradual and insensible rise in the real value of silver, which he supposes have taken place in the general market of Europe, during the course of the last century. In his opinion it seems to be altogether impossible, that the bounty could ever contribute to lower the price of grain. In years of plenty, the bounty, by occasioning an extraordinary exportation, necessarily keeps up the price of corn in the home market above what it would naturally fall to; and this was the avowed purpose of the institution. In years of scarcity, though the bounty is frequently suspended, yet the great exportation which it occasions in years of plenty must frequently hinder, more or less, the plenty of one year from relieving the scarcity of another. In both, therefore, the bounty necessarily tends to raise the money price of corn somewhat higher than it otherwise would be in the home market. It has been thought, however, by many persons, that the bounty tends to encourage tillage; partly, by opening a more extensive foreign market to the corn of the farmer who produces it, and partly, by securing to him a better price than he could otherwise expect in the actual state of tillage. This double encouragement, it is conceived, must, in a long period of years, occasion such an increase in the production of corn, as may lower its price in the home market, much more than the bounty can raise it, in the actual state of the tillage, whatever it may be, at the end of that period. To this reasoning Dr. Smith replies, that whatever extension of the foreign market can be occasioned by the bounty, must, in every particular year, be altogether at the expense of the home market; as every bushel of corn, which is exported by means of the bounty, and which would not have been exported without it, would have remained in the home market to increase the consumption, and to lower the price of that commodity. The corn bounty, as well as every other bounty upon exportation, imposes upon the people two different taxes; viz: the tax, which they are obliged to contribute towards paying the bounty, and that which arises from the advanced price of the commodity in the home market, and which, as the whole body of the people are purchasers of corn, must, with regard to this particular commodity, be paid by the whole body of the people.
This second tax is by much the heaviest of the two; amounting, for every five shillings per quarter of wheat contributed towards the payment of the first tax, to 6$. towards the payment of the second. This heavy tax, resting upon the first necessity of life, must either reduce the subsistence of the labouring poor, or it must occasion some augmentation in their pecuniary wages, proportionable to that in the pecuniary price of their subsistence. In the one way, it must tend to restrain the population of the country, as it reduces the ability of the labouring poor to bring up their children; and in the other, it must tend to restrain the industry of the country, as it reduces the ability of the employers of the poor to employ so great a number as they otherwise might do, in proportion to the degree of its operation in both respects. "The extraordinary exportation of corn, therefore, occasioned by the bounty, not only in every particular year, diminishes the home, just as much as it extends the foreign market and consumption, but by restraining the population and industry of the country, its final tendency is to limit and restrain the gradual extension of the home market; and thereby, in the long run, rather to diminish, than to augment, the whole market and consumption of corn."

It has been thought, however, that the enhancement of the money price of corn must necessarily encourage its production, by rendering that commodity more profitable to the farmer. To this plea Dr. Smith replies, "that this might be the case if the effect of the bounty was to raise the real price of corn, or to enable the farmer, with an equal quantity of it, to maintain a greater number of labourers in the same manner, whether liberal, moderate, or scanty, than other labourers are commonly maintained in his neighbourhood. But neither the bounty, nor any other human institution, can have any such effect. It is not the real, but the nominal price of corn, which can in any considerable degree be affected by the bounty. And though the tax, which that institution imposes upon the whole body of the people, may be very burdensome to those who pay it, it is of very little advantage to those who receive it. The real effect of the bounty is not so much to raise the real value of corn, as to degrade the real value of silver, or to make an equal quantity of it exchange for a smaller quantity, not only of corn, but of all other home-made commodities; for the money price of corn regulates that of all other home-made commodities." The money price of corn regulates the money price of labour, and of all the other parts of the rude produce of land, which, in every period of improvement, must bear a certain proportion to that of corn, though the proportion in different periods may be different. In this latter way, it also regulates the money price of the materials of almost all manufactures, and that of manufacturing art and industry. Though in consequence of the bounty, the farmer should be enabled to sell his corn at an advanced price, and to pay his landlord a proportionable advanced rent; yet if, in consequence of this rise of the price of corn, the money thus obtained will purchase no more home-made goods of any other kind, than the lower price would have done before, neither the circumstances of the farmer, nor those of the landlord, will be much mended by this change. The farmer will not be able to cultivate much better; the landlord will not be able to live much better. In the purchase of foreign commodities, this enhancement in the price of corn might give them some little advantage; but in that of home-made commodities, which constitute the whole expense of the farmer, and the far greater part even of that of the landlord, it can give them none at all.

The bounty, as it raises in the home market, not so much in the real, as the nominal price of our corn; as it augments, not the quantity of labour which a certain quantity of corn can maintain and employ, but only the quantity of silver which it will exchange for; it discourages our manufactures, without rendering any considerable service to our farmers or country-gentlemen. Although it puts a little more money into the pockets of both, yet if their money links in its value, as to the quantity of labour, provisions, and home-made commodities of all different kinds, which it is capable of purchasing, as much as it rises in its quantity, the benefit accruing from it will be little more than nominal and imaginary. There is, indeed, one class of men, to whom the bounty may be essentially serviceable; and this consists of the corn-merchants, the exporters and importers of corn, who are most anxious for the continuance or renewal of the bounty.

Bounties upon the exportation of any home-made commodity are liable to the general objection, that may be made to all the different expedients of the mercantile system, that is, of forcing some part of the industry of the country into a channel less advantageous than that into which it would run of its own accord, and also to the particular objection of forcing it into one that is actually disadvantageous; the trade, which cannot be carried on otherwise than by means of a bounty, being necessarily a losing trade. The bounty upon the exportation of corn is liable to this farther objection, that it can in no respect promote the raising of that particular commodity, of which it was meant to encourage the production. With a view of encouraging the production of any commodity, a bounty upon production would operate more directly than one upon exportation; and it would have the advantage of imposing only one tax upon the people, or that which they must contribute in order to pay the bounty. Bounties upon production, however, have been very rarely granted. The prejudices established by the commercial system have taught us to believe, that national wealth arises more immediately from exportation than from production; and accordingly, it has been more favoured, as the more immediate means of bringing money into the country. It has been also laid, that bounties upon production have been found more liable to frauds than those upon exportation. The latter, however, have not been altogether exempt from this charge. A bounty upon exportation has sometimes enabled the merchant and manufacturer to send abroad the surplus goods of an overflowed market, and to keep up the price of what remains in the home-market; and, therefore, instances have occurred, in which the undertakers of particular works have privately agreed to give a bounty out of their own pockets upon the exportation of a certain portion of the goods, in which they have dealt; and this expedient has answered the purpose, by doubling the price of their goods in the home market, notwithstanding a very considerable increase in the production.

Something like a bounty upon production, however, has been granted upon some particular occasions. Of this nature are the tonnage-bounties given to the white-herring and whaling fisheries. "These, it may be supposed, have a direct tendency to render the goods cheaper in the home-market than they otherwise would be. In other respects, their effects are the same as those of bounties upon exportation. By means of them a part of the capital of the country is employed in bringing goods to market, of which the price does not repay the cost, together with the ordinary profits of stock. But though the tonnage bounties on the fisheries do not contribute to the opulence of the nation, yet they may be thought to contribute to its defence, by augmenting the number of
the fisheries and shipping. Dr. Smith suggered, however, that
these may sometimes be done by means of such bounties, at a
much smaller expense than by keeping up a great standing
navy (if such an expression may be used), in the same way as
a standing army; and the ingenious author inclines to believe,
that in granting at least one of these bounties, the legislature
has grossly imposed upon. On this subject he makes the
following observations. First, the herring busses bounty is
to large. Secondly, the bounty to the white herring
fishery is a tonnage bounty, and proportioned to the burden
of the ship, not to her diligence or success in the fishery;
whence it has been too common for vessels to fit out for the
sole purpose of catching, not the fish, but the bounty.
Thirdly, the mode of fishing, for which this tonnage bounty
in the white-herring fishery has been given (by busses or
docked vessels from 20 to 80 tons burden), seems not so well
adapted to the situation of Scotland as that of Holland, from
which country it seems to have been borrowed. The bounty
granted to the busses fishery is necessarily a discomagement
to the boat-fishery, which tends better adapted to the peculiar
situation of Scotland, intermixed by arms of the sea running
up a long way into the land, and called sea-lochs, and which,
by the operation of the busses bounty, is gone almost entirely
to decay. Fourthly, in many parts of Scotland, during cer-
tain seasons of the year, herrings supply a great part of the
food of the common people; and, therefore, a bounty, which
kaxed to lower their price in the home market, might contri-
but to very general relief. The herring-busses bounty contributes
to such good purpose. It has raised the boat-fishery which is belt adapted for the supply of the home
market, and the greater part of its produce is sent abroad.
Another ingenious writer, Dr. Anderson (ubi infra), has
pointed out similar defects attending the fisheries of Scotland;
and he proposes, for remedying them, that a reasonable
bounty should be allowed on every barrel of herrings properly
cured; and that the bounty upon busses per ton should be
lowered, and these vessels be prohibited from fishing within a
limited distance of the coast. This would allow the natives
to fish in their creeks with freedom; and it would likewise
allure merchants to come and purlchase the fish when fresh,
cought, and cure them for themselves. But as the most
important improvement, he proposes that the herring and
Greenland whale-fisheries should be made to go hand in hand,
and mutually assist one another. The whale-fishery, he ob-
terves, has been greatly retarded by the large size of the vef-
nels which have been usually employed in it, and the mima-
agement that always attends public companies in matters of
trade. To prevent this, in some degree, for the future,
Dr. Anderson proposes, that the bounty should be granted
to vessels of a smaller size; and that all restrictions, with regard
to the number of hands, provisions, tackle, &e. should be
etirely abolished; in lieu of which the vessels should be only
obliged to pursue the fishing for a certain limited time (if not
sooner loaded), without following any other employment.
These small vessels would be equally proper for the her-
ing-fishery as for that in the Greenland seas; and as in both
fisheries the necessary number of hands is nearly the same, it
would be easy for the adventurers, on their return from the
Greenland seas, to put ashore their loading, with the filhing
apparatus, and take on board the tackle, &e. necessary for the
herring-fishery, and to proceed immediately to the proper
locations in search of that kind of fish. It is further proposed,
that instead of fixing the rendezvous for the herring-fishery
precisely to the 22d of June and 1st of October, as it pre-

tent, ships might be entitled to receive the bounty, if they
began fishing on any day between the two periods above-men-
tioned; the ships being obliged to continue three months
from the time of their entry, or to the end of the fishing
season following, if they have not sooner completed their
landing. By such regulations, the loss of time would be pre-
vented; and adventurers would be induced to fit out small
vessels at a time when trade was dead; and they would con-
duct the business at a lesser expense, and with greater profit,
that large trading companies. See FISHERY.
In particular manufactures that are deemed necessary for
the defence of society, and for the supply of which it would not
always be prudent to depend upon our neighbours, and
that could not otherwise be supported at home, it would not
be unreasonable to tax other branches of industry for their
support. Upon this principle the bounties upon the exporta-
tion of British made-fail, cloth, and British made gun-power,
may both be vindicated. But it can seldom be reasonable to
tax the industry of the great body of the people, in order to
support that of some particular class of manufacturers.
However, in a season of great prosperity, when the public
enjoys a greater revenue than it knows well what to do with,
it may, perhaps, be as natural to give such bounties to fa-

vourite manufacturers, as to incur any other idle expense.
In public, as well as in private expences, great wealth may,
perhaps, frequently be admitted as an apology for great folly,
but there must surely be something more than ordinary ab-

duridity in comming such profusion in times of general diffi-
culty and delights.

When a bounty may be considered as a drawback, it is not
liable to the same objections with that which is properly a
bounty. Thus, the bounty upon refined sugar exported is
kind of drawback of the duties upon the brown and
muscovado sugars from which it is made. That species of
refined sugar upon which the bounty is granted is denomi-
nated, in the statute-book, "sugar in the loaf and whole,
being nett." Upon the export of this sort of sugar the
bounty was raised by 5 Geo. III. c. 47; to 14s. 6d.; and
a further bounty of 11s. 6d. was granted by 21 Geo. III. c. 10, in consequence of an additional duty of 6s. per cwt.
paid in 1781 on raw sugar imported. The whole bounty
amounts to 26s. per cwt. When parliament, in 1791, by
21 Geo. III. c. 15 laid a further duty of 28. 8d. per cwt.
on raw sugar imported from the British plantations, making
the import duty 15s. per cwt. in the whole, no addition was
made to the bounty on the export of refined loaf. But as
an addition was made of 35. 4d. to the drawback, on what
the statute calls "ballasts, and ground powdered fugar," and
also on "refined loaf broken into pieces," and all sugar
called "candy." It was proposed in 1791, when the addi-
tional duty of 28. 8d. was moved, to augment the bounty in
the usual proportion; but the sugar refiners remonstrated
against the measure, as being, according to their statement,
beneficial only to the planters. By a subsequent law it is
enacted, that, after the year 1793, whenever the average
of the prices of brown or muscovado sugar (taken weekly
upon oath before the lord mayor of London, and published
in the Gazette) shall exceed, in the six weeks respectively
preceding the middle of February, June, and October, the
amount of 50s. per cwt. (exclusive of the duty), the draw-
back on raw sugar exported is immediately to cease for four
months, and the bounty on refined is to cease during a like
term, but commencing after an interval of one month. From
a statement made by Mr. Bryan Edwards (Hist. of the West
Indies, vol. ii. p. 452.) it appears, that the apparent loss to
the revenue, arising from the bounty, is no more than one
shilling the cwt. But as every loghead of sugar lofs con-
iderably in weight, after the duty is paid, and before it is
either exported or worked up, and the duty is often paid for
more than the casks really contain, by the strict regulations
re-

The bounty upon wrought silks imported, is also a drawback of the duties upon raw and thrown silks imported. See Silk.

The bounty upon gun-powder is a drawback of the duties upon brimstone and saltpetre imported. In the language of the customs, those allowances are called drawbacks, which are given upon goods imported in the same form in which they are imported. When that form has been altered by manufacture of any kind, as to come under a new denomination, they are called bounties. Bounties are sometimes called premiums, as drawbacks are sometimes called bounties.

Having given a compendious abstract of Dr. Smith's reasoning against the system of bounties, particularly as it is applicable to the exportation of corn, we shall now advert to the arguments alleged by the advocates of this system in its favour. Among these advocates we may reckon Dr. James Anderson, in his letters entitled "Observations on the means of exciting a spirit of national industry, &c." 1740–1777, and his "Call for Investigation of the circumstances that have led to the present scarcity of grain in Britain," 1780; Mr. Driar in "An Inquiry into the corn laws and corn trade of Great Britain, &c." 1798; Mr. Mackie, in a "Supplement" to the last-mentioned work; and Mr. Maltheus, in his "Essay on the principle of population, &c." 1803.

Some of the earlier topics, from which arguments were deduced in favour of the bounty, were its great encouragement of British shipping, and the gold it brought home for paying the balance of exported corn. But exclusively of these arguments, the advocates for the bounty urge, that, by forcing a production of corn, greater than the annual consumption of the home market, the bounty provides a reserve against years of deficient crop; that it secures an adequate profit to the farmer; that it reduces the prices of corn, which are usually very fluctuating, to a greater uniformity and steadiness; and that it makes this uniform price rather lower than it otherwise would be. From such considerations, Dr. Anderson, and others, on the same side of the disputed question with himself, have inferred, that, setting aside the innumerable beneficial effects of a well regulated and efficient bounty on the exportation, aided by a duty on the importation of corn, with regard to the population, industry, manufactures, commerce, national wealth, public tranquillity, and augmentation of revenue, it is a case fraught with multiplied advantages; and "that it could not be abandoned," such is the strong language of Dr. Anderson, "without endangering the welfare of the people and the very existence of this kingdom, as an independent nation."

Upon the four preceding propositions it has been observed by an anonymous writer, seemingly well acquainted with the subject (Edinburgh Review, No IX.), that the promised readjusts in the price of corn must be derived from that surplus of produce which is to be reffered in years of a bad crop; this surplus of the average produce above the annual consumption, must be the result of an enlarged encouragement of tillage; and this encouragement, operating by an augmentation of the profits of the farmer, must ultimately contri-
pical opinion. In endeavouring to shew, that the enhancement of price, occasioned in the home market by the bounty, must restrain the population or the industry of the country, he proceeds upon the above-mentioned assumption, that the bounty occasions an immediate rise of the money-price of corn; and may, therefore, either reduce the subsistence of the labourers, or, if wages rise, the abilities of their employers to give them work. If that rise of money-price, however, is consequent, as the anonymous writer argues, to an extension of demand in the foreign market, it will at first increase the ability of those employers; and though it will likewise reduce at first the subsistence of the labourers, their wages must soon rise to their true rate; and this rise in the money-price of labour, will only reduce the ability of the employers to its former level.

The anonymous writer, after these criticisms on the reasoning of Dr. Smith, proceeds to specify some of the errors into which the advocates for the bounty have fallen, which are of a more palpable kind, and which proceed from an imperfect acquaintance with the principles of political economy. In the first place, they have misunderstood Dr. Smith's important doctrine, that the variations of the money-price of corn are communicated ultimately to the labour, and other commodities. Whilst they infer, that the price of commodities and labour is liable to be affected by many other circumstances, besides the price of corn, they advance a truth, in itself unquestionable, and not incompatible with Dr. Smith's proposition, which merely affirms, that every change which the bounty may occasion in the money-price of corn, will communicate itself, first to the money-wage of labour, and, through them, to the money-price of all other articles; and thus, the real price of corn will be maintained the same, notwithstanding a nominal variation. In the second place, they feign very imperfectly aware of the manner in which the principle of competition operates upon profits, and upon exchangeable value; and, on this account, many of their remarks are inconsistent as well as unfounded. They have supposed, with Dr. Smith, that the sum of the bounty is immediately added to the former money-price even in the home-market, and, at the same time, contend, that the average-price in that market will be lowered. It is also their opinion, that the real price of corn will, upon the whole, be rendered cheaper to the consumers, and that the same real price of corn will be maintained permanently higher to the farmer; though these two positions are, in direct terms, contradictory to each other. Dr. Malthus observes, that the bounty greatly lowers the price of corn, by producing a growth considerably above the wants of the actual population; whilst he forgets, that a greater growth can only be occasioned by a greater demand, to which it will be always adjusted; and, keeping the supply and the demand always in the same ratio, will in other words keep the price always at the same rate. But the advocates for the bounty have betrayed a much less pardonable inattention to the necessary action of the principle of competition, when they conceive, as some of high authority have done (See Reports of the committee of the house of commons respecting the corn trade, ordered to be printed May 14th and June 15th 1834), that the average price of grain in the home market may be so low as not to yield a fair and reasonable profit to the grower. Besides, Dr. Smith and his opponents have pronounced, that, in years of extraordinary abundance, the bounty will prevent the money-price of corn in the home-market from falling quite so low, as it would fall if there were no bounty. Dr. Smith, indeed, is consistent with himself, because he uniformly maintains, that the bounty can have no effect in rendering the annual produce larger than it otherwise would be. But those who affect this position, and assume that the bounty increases the produce, and occasions a surplus growth above the annual consumption, evidently incur the charge of inconsistency. For this surplus will, in a year of extraordinary abundance, partake of the extraordinary increase; so that over and above the usual home supply, there will, in such a year, be reaped not only the extraordinary increase upon that supply, together with the usual surplus for exportation, but likewise the extraordinary increase upon that surplus. Of these four portions of the crop, therefore, not only the second, but the fourth also, will be thrown as an excess upon the home-market; and the price in this market will consequently be lowered much more by the whole of this excess than it would have been by the former part of it alone.

The ingenious writer, to whom we are indebted for these remarks, suggests that a bounty upon export may, in a particular manner, afford some temporary encouragement to tillage; and thus, to a certain degree, force the production of a surplus, which may be referred for the home-market in deficient years. By preventing, in such years, the temporary price from rising so high as it otherwise would, it may be considered as restraining a little on one side the occasional fluctuations of the price of corn; but, by overlocking the home-market in plentiful years still more than it would otherwise be overlocked, it must be considered as giving a still greater range to the fluctuation of the temporary price on the other side. Whilst the bounty has this influence upon the temporary changes of real price, its effects upon the nominal price of corn will be to raise and keep it higher than it otherwise would be. If the encouragement to tillage, derived from a bounty, should be deemed a sufficient benefit to induce a great nation to establish it; it should be remembered, that, though it may indirectly secure a more certain supply of corn, it necessarily retards, upon the whole, the growth of national opulence and industry. It forces a part of the national capital into a branch of trade, which is unavoidably a losing one, and which does not return the whole of the capital that is employed in it; for the whole sum granted in bounties, together with the expenses of collecting the tax for defraying them, is a part of the national capital thrown into that trade without any return. After exhausting its full amount the possible benefit is to be derived from such an artificial contrivance as the bounty, we should not allow against that, both the immediate sacrifice and all the subsequent disadvantages, but we ought also to consider whether the very benefit proposed, at least in one point of view, might not be better obtained in another way; by the removal of any existing impediments to cultivation, to the free commerce of land, the free employment of capital, or the free transference of labour. Besides the sacrifice of capital that is incurred by bounties, there is a disadvantage arising from that constant diminution of the real wages of labour, which is occasioned by the progressive rise of the price of corn in the home market; other disadvantages are incurred from the constant enhancement of the money-price of labour and all other commodities, both in the depreciation of fixed pecuniary returns, and in the injury to domestic manufactures, with regard to their competition against foreign industry. Moreover, another disadvantage, perhaps still greater, consists in the uncertainty and derangement to which interferences of law subject the capital that is invested in the trade of grain, and the obstacle opposed by them to the free enlargement and codification of this most important system of commerce. On the other hand, it should be considered, that the encourage-
rangement which any assigned bounty will give to husbandry, and which, for the same purpose, it will inevitably do, so high as to cover the whole advantage, which the bounty would originally give to the exporter in his sales abroad; and the whole encouragement which, in the mean time, the bounty can give to agriculture, will be found to be very slight, when it is considered in what way it is formed, and that it consists, not in the addition of the whole bounty to the farmer's price, but in that small addition to his price which is occasioned from time to time by the gradual extension of foreign demands. In reference to the present circumstances of this country, it ought also to be recollected, that, when the average price of corn at home is greater than that of the foreign market, the interval of encouragement to tillage, under the same bounty, will be shorter than in the other two cases, and the whole disadvantage of high money prices will be sooner brought to its greatest height.

Adverting to the present state of the agricultural produce of our own country, and what has caused an alarm to some of our legislators as well as political writers, we are happy in adopting the opinion of those who think it unnecessary. If, besides being dependent in years of scarcity on very large imports from abroad, we are even in ordinary years dependent upon importation for a certain portion of our necessary supply, it seems, admitting the fact, to be only a temporary and slight inconvenience. It is doubted, whether, in this case, a bounty upon exportation, and the prohibition of importation, furnish the most suitable and effectual remedy: and it is not unreasonably suggested, that an entire freedom of importation, continued with a bounty upon production, augmented from time to time, might have appeared at least a more plausible proposal.

Nothing can be more unfounded than the fear, which some advocates for the bounty have expressed, that England may cease to be an agricultural nation; except the lamentations, which others have indulged over the actual decline of its husbandry, since that which has been called the fatal statute of the year 1773. It should be recollected that, from year to year of this period, the husbandmen of Britain have extended their capital, their skill, and their produce, though the commerce and manufactures of the island have in some measure concealed its agricultural grandeur.

The bounty seems to have recommended itself to some of its admirers, as a simple expedient for securing, by paying a few millings at the custom house, such a surplus of annual produce as will equalize the variation of value, and establish a remedy against the natural inconvenience of the seasons. In this view of it, the bounty is to accumulate, by a kind of mechanical operation, a surplus of produce, for supplying an occasional deficiency; and it is to act as a regulator of the price, against the circumstances that tend to enhance or to depress it. If it is capable of doing so much, it may also do more; and serve to repress, as Mr. Malthus has inferred, the principle of population a little in years of plenty, and to encourage it comparatively in years of scarcity; regulating, in this manner, the population more equally, according to that quantity of subsistence which can permanently be supplied. It is well observed, that a measure can rarely be wisdom for one great state, which may not be permanently followed by all. All cannot, by adopting the bounty, secure to each an export of grain; and the single nation that flows from the plain high maxims of policy to such an artifice, will ultimately be convinced that the advantage gained by it, if any, must be very inconsiderable. The balance of this trade cannot long be very great to any nation; and it will be naturally poiffed by that one, whose capital and skill are in

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a condition to furnish the additional supplies most advantageously to all. In this condition, if the exportation is free, it will hold the balance, without requiring the aid of a bounty; nor can a bounty give it the balance, if it be not in that condition.

Having stated, as briefly as possible, the principal arguments on both sides, for and against a bounty, we shall close this article with a short abstract of the history of this commercial institution. The prices of corn had been variable during the 17th century, and in general so high, the average price of wheat for fifty years before 1650 having been 6s. 8d. red. and from 1650 to 1700 3l. 0s. 1d. per quarter, that the attention of the legislature had frequently been directed to this object; and various attempts had been made to revive agriculture, with a view of redressing this evil, by encouraging the exportation, and checking the importation of corn; but none of them had proved effectual. Towards the end of the century, however, the prices had been so uniformly high, and on some occasions so oppressive, as to induce the truly patriotic and judicious administration under William and Mary, immediately after the revolution in 1688, to investigate some method of remedying this evil, and of preventing its future recurrence. With this view, a resolution was adopted of granting a certain bounty upon the exportation of corn, when the crops were so abundant as to reduce the price below the rate which they conceived to be necessary for indemnifying the farmer for his expense and trouble, so as to enable him to find for it a foreign market; and with a view also of preventing a competition of foreigners in our home market, when the crop happened to be uncommonly abundant, and of guarding against the machinations of corn-dealers, who might, for their own lucrative purposes, occasionally introduce much foreign corn into the home market, so as to lower the price of a moderate crop in Britain below its intrinsic value, they imposed certain duties on corn imported, which rose or fell in proportion to the selling price at the time in our own market, as protecting duties. The aim of the legislature, in these regulations, was to preserve, as much as possible, an equality and moderation of price at all times in the home market. Such were the principles of the corn law, first enacted in the year 1668 by W. and M. and finally completed in 1700 by 11 and 12 W. and M. c. 20. By the law of 1668, a bounty of 5s. was granted for every quarter of wheat exported, when the price was at or under 48s. per quarter; and by the same law, there was payable on importation a duty of 1l. 4s. per quarter, when the price did not exceed 3l. 19s. 3d.; when the price was above that, and not exceeding 6l., the duty payable was 12s. per quarter; and when the price was above 6l., the duty was only 8s. This commercial regulation was much celebrated by the best writers and statesmen of England, throughout the first part of the last century; they always mentioned it with admiration, as an institution that had been wisely planned, and that had completely succeeded; and it was ranked with the art of navigation, the laws for the woolen staple, or queen Elizabeth's provision for the poor, as an inseparable part of that peculiar system, to which England was indebted for her superiority over all other nations. The diminution of the average price, and the progressive increase of exports, within the period at the beginning of which the bounty had been instituted, presented a flattering coincidence; and at a time when the analysis of national wealth was unknown, it was natural enough to believe, that the cause of these curious facts could be no other but that remarkable law which just preceded their appearance. As a perceptive regulation, Dr. Anderson considers it as one of the highest exertions of
human will; for the beneficial tendencies that have resulted from it in practice, and to which we can now refer as facts to form our judgment, could be only contemplated by the devisers of that law as plausible probabilities. By the operation of this law, the prices in the home market were reduced, in the course of 50 years, to the consumers in the home market, from 31. to 11. 12s. 6d. per quarter; and we were enabled by it to export corn till our exports of exports rose by degrees to the amount of more than one million and a half quarters in one year, which brought into the country a sum not much under three millions sterling; being paid for the price of our own salt manufactures, and for encouraging the most useful kind of industry that can ever be promoted in any nation. Similar sentiments with regard to king William’s corn law were adopted by our admirers upon the continent. The bounty became a theme of panegyric in all their political treatises. Though a most artificial expedient, it was applauded even by the economists of France, in whose profound writings all devices were reproved, that might check the spontaneous order of nature. Dr. Smith, however, maintained that the system of laws, which is connected with the establishment of the bounty, seems to deserve no part of the praise which has been bestowed upon it. The improvement and prosperity of Great Britain, which have been so often ascribed to those laws, may very caily be accounted for by other causes. That security which the laws in Great Britain give to every man, that he shall enjoy the fruits of his own labour, is alone sufficient to make any country flourish, notwithstanding these and twenty other absurd regulations of commerce; and this security was perfected by the revolution much about the same time that the bounty was established. The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security, is so powerful a principle, that it is alone, and without any assistance, not only capable of carrying the society to wealth and prosperity, but of furnishing a hundred important obstructions with which the folly of human laws too often incumbers its operations; though the effect of these obstructions is always more or less either to encroach upon its freedom, or to diminish its security. In Great Britain industry is perfectly secure; and though it is far from being perfectly free, it is as free, or more free, than in any other part of Europe. Upon the whole, though the period of the greatest prosperity and improvement of Great Britain has been posterior to that system of laws which is connected with the bounty, we must not on this account impute it to those laws. It has been posterior likewise to the national debt; but the national debt has most assuredly not been the cause of it. The sentiments of Dr. Smith were adopted by many philosophical inquirers; and at length they approved themselves to our legislators, and became a subject of parliamentary deliberation. Accordingly the act of 1773, (13 Geo. III. c. 43; see also Stat. 31 Geo. III. c. 30. 32 Geo. III. c. 50. 33 Geo. III. c. 3, 65;) which was conducted through the house of commons by Mr. Burke, effected a virtual repeal of the bounty, though it retained the language, and seems to have been a legislative act, granting a bounty, makes a total balance of trade against us, in this single article, of not less than nine millions sterling per annum. These facts seem to have made a great impression on several ingenious and well informed minds; the bounty has once more found advocates among some political writers of great merit, and among several statesmen; and a statute has been lately passed, which, it is expected, will produce all the beneficial effects that have been ascribed by its advocates to the old bounty. The committee of the house of commons, in their second report, ordered to be printed June 14th, 1804, deliver their opinion in these words: “It appears to the committee, that the price of corn from 1791 to the harvest of 1803 has been very irregular; but, upon an average, increased in a great degree by the years of scarcity, has in general yielded a fair profit to the grower. The usual high prices, however, have had the effect of stimulating industry, and bringing into cultivation large tracts of waste land; which, combined with the two last productive seasons, and other causes, have occasioned such a depression in the value of grain, as it is feared will greatly tend to the discouragement of agriculture, unless maintained by the support of parliament.” Accordingly an act was passed July 30th, 1804, (44 Geo. III. c. 102;) to regulate the importation and exportation of corn, and the bounties and duties payable thereon. Without the aid of this new statute, it has been said, that the
the farmer cannot be sure of obtaining, even in the home market, a fair and reasonable profit. By those who have disapproved this measure, and who, adopting the general principles of Dr. Smith, are adverse to a bounty, it has been alleged, that, like other arts of trade, that of the farmer is liable occasionally to the spirit of overtrading, if profits for a time have happened to be greater than ordinary. The late years of dearth and most extraordinary price, they say, rendered the profits of farming, for the time, much greater than ordinary: and the consequence appears to have been a pretty free indulgence of the disposition to trade too much, and to enter into projects disproportioned to the capital that would immediately be invelled. In many instances, where farmers came to make a new agreement about rent, they reckoned too confidently upon the continuance of prices which they ought to have considered as unusual; and made the estimate of their future returns too much upon the recent rate of profit, and not upon an average sufficiently and reasonably large. Like other improvident speculators, they were, of course, to suffer for their want of foresight, as soon as prices and profit returned to their ordinary rate. Hence it has happened, that those farmers who had overtraded, and who found it difficult to make good their imprudent engagements, found it almost as easy to persuade other persons as themselves, that prices are much too low. Their landlords, in particular, are not the persons most likely to discover that prices are not too low, but rents a little too high; and they may honestly find it somewhat difficult to be convinced, that the embarrassment of their tenants is owing to that local cause, and not to something that affects the general condition of the country. To this purpose, it is said, in a pamphlet by a member of parliament, entitled, "Curiosity Observations on the act for ascertaining the bounties, &c." 1804, that "times, unfortunate in other respects, impressed on tillage a renovated vigour; a vigour which the principles of this act, and those alone, are able to sustain." By this statute it was enacted, that, from and after November the 15th, 1804, to much of the statute 3 Geo. III. c. 30. as regulates the prices at which British corn, grain, malt, meal, flour, and biscuit, may be exported, except to Ireland, and at which foreign corn, grain, meal, and flour, may be imported, except from Ireland, and as fixes the duties and bounties payable thereon, shall be repealed. By this statute it is further enacted, that the importation and exportation of corn, into and from England and Wales, shall be regulated by the average price of the twelve maritime districts; and into or from Scotland, by the average price of the four districts in Scotland; and that the bounties and duties shall be regulated by schedules, annexed to this act; that whenever the average shall be under the prices at which corn may be importable into Great Britain and Ireland, on the low duties from foreign parts, exportation shall be allowed from Great Britain to Ireland, &c.; and that the importation and exportation of corn, into and from Ireland, shall be regulated by schedules, annexed to this act. The first schedule fixed the prices to which the scale of bounty is to attach on the export of corn, &c. and the prices at which the exportation is prohibited. By this schedule, wheat may be exported, when at or under 48s. per quarter, with a bounty of 5s.; rye, at or under 32s. with a bounty of 3s.; peas and beans are exportable without a bounty, till at or under 35s.; barley, beer, or bigg, or malt made of barley, beer, or bigg, may be exported at or under 28s. with a bounty of 2s. 6d.; oats, at or under 16s. with a bounty of 2s.; wheat flour, biscuit, &c. with a bounty of 1s. 6d. per cwt.; wheat meal, with a bounty of 1s. 3d. per cwt.; barley, beer, or bigg, meal, with a bounty of 1d. per cwt.; and oatmeal, with a bounty of 1s. per cwt. But when the price of wheat exceeds 53s. that of rye 35s., that of peas and beans 35s., that of barley, beer, or bigg, or malt made of them, 30s., and that of oats 20s., no export is allowable. The second schedule shows the prices, according to which high or low duties are to take place on importation. When imported from the province of Quebec, or the other colonies or plantations in North America, wheat under 35s. per quarter is subject to the high duty of 24s. 3d. per quarter; at or above 53s. but under 56s., to the first low duty of 2s. 6d.; and at or above 56s. to the second low duty of 2d. per bushel, and beans, under 35s. per quarter, are subject to the high duty of 22s.; at or above 35s. but under 56s., to the first low duty of 2s. 6d.; and at or above 56s. to the second low duty of 2d.; oats under 17s., pay the high duty of 6s. 7d.; at or above 17s., under 18s. the first low duty of 1s.; and at or above 18s. the second low duty of 2d.; oatmeal, if under 16s. 6d. per bushel of 150 lbs. avordupois, or 128 lbs. Scotch troy, is subject, for every bushel, to the high duty of 8s.; at or above 16s. 6d. per bushel, but under 17s., to the first low duty of 1s.; and at or above 17s., the second low duty of 2d.; barley, beer, or bigg, under 31s. 6d., pays the high duty of 1s. 6d.; and at or above 44s. the first low duty of 1s. 6d.; and at or above 44s., the second low duty of 2d.; barley, beer, or bigg, under 31s. 6d., pays the high duty of 1s. 6d.; and at or above 33s. the first low duty of 1s. 3d.; and at or above 33s. the second low duty of 2d.; oats under 21s., pay the high duty of 6s. 7d.; at or above 21s., but under 22s., the first low duty of 1s.; and at or above 22s., the second low duty of 2d.; oatmeal under 22s. per bushel, pays the high duty of 8s.; at or above 20s., but under 21s., the first low duty of 1s.; and at or above 21s., the second low duty of 2d. The third schedule shows the prices to which the scale of bounty attaches on the export of corn, ground corn, flour or meal, malt, &c. from Ireland, and the prices at which the exportation is prohibited. When exported to any foreign country, wheat, at or under 29s. 5d. per barrel, Britifh, is allowed a bounty of 3s.; rye, and also peas and beans, at or under 20s. 4d., a bounty of 1s. 10d.; barley, beer, or bigg, or malt made of these, at or under 16s. a bounty of 1s. 5d.; oats, at or under 15s. 2d. a bounty of 1s. 3d.; wheat, flour, biscuit, &c. a bounty of 1s. 6d. per cwt.; wheat meal, 3s. 3d. per ditto; rye meal or flour, 9d. per ditto; barley, beer, or bigg flour, 10d. per ditto; and oatmeal, 1s. per ditto. When the price of wheat exceeds 53s. 1d. per barrel, British; of rye, peas, and beans, 22s. 3d.; of barley, beer, bigg, or malt made of them, 17s. 8d.; and of oats, 12s. 2d., no exportation is allowed. The fourth schedule shows the prices, according to which the high or low duties are to take place on importation into Ireland; for which, and other particulars, we refer to the act itself.

**Bounty, Queen Anne's**, for augmenting poor living's under 50l. per annum, commits the produce of the first fruits and tenth, after the charge and expenses payable out of the same are defrayed. A corporation for management of the same was settled, &c. in 1704. See Augmentation and First Fruits.

By flat. 44 Geo. III. c. 2. the sum of 8000l. was granted out of the consolidated fund to the governors of queen's
Anne's bounty, for the relief of curates deprived of their cure on account of the residence of incumbents, in consequence of the act 43 Geo. III. c. 84. But no curate is entitled to receive any allowance under the act, who shall not produce to the said governors a proper recommendation from the bishop of the diocese in which the cure is situated, and no allowance shall exceed three-fourths of the income foil.

BOUPER, Lé., in Geography, a town of France, in the department of the Lower Pyrenees; 10 miles S. W. of Mauleon.

BOUQUENON, a town of France, in the department of the Meuse, and chief place of a canton, in the district of Bitche on the Sarre; 5 leagues S. W. of Bitche.

BOUQUETIN, in Zoology, the wild goat. See Capra ibex.

BOUR, in Geography, a town of Aftic Turkey, in the province of Caramania; 4 miles S. E. of Akkeran.

BOURAC, a town in the Arabian Irak; 70 miles S. S. E. of Baghdad.

BOURBACH, or Grand-Bourbach, a town and castle of Germany, in the circle of Weilphalia, and principality of Nassau-Dillenburg, near which is a lead mine; 9 miles W. of Dillenburg.

BOURJON, Nicholas, in Biography, a famous Latin poet in the 16th century, was a native of Vandeure, near Langres; and appointed by Margaret de Valois preceptor to her daughter, Jane d'Albert of Navarre, the mother of king Henry IV. He died at Condé whither he had retired, and where he had a benefice, about the year 1572. He wrote eight books of "Epigrams," commented by Enfans, and a poem on the forge entitled "Ferraria." He was distinguished for his knowledge of antiquity and of the Greek language.

Bourbon, Nicholas, a celebrated Latin and Greek poet, was nephew of the former, and son of a physician at Bar-le-De., where he was born about the year 1574. He taught rhetoric in the colleges of Paris, and was nominated by cardinal Du-Perron, in 1611, professor-royal in Greek eloquence. He was canon of Orleans and of Langres, and a priest of the oratory, though he declined the title. In 1637, he was admitted by cardinal Richelieu a member of the French academy, without soliciting the honour. He died at the house of the fathers of the oratory in 1644. As a Latin poet, he obtained the highest rank in France, and has been thought, if not superior, equal to any who lived in the two last centuries. In his verses he has combined a considerable portion of poetical fire with elevation of style and sentiment; and he has been charged with making Lucan and Claudian, rather than Virgil, his models; their manner being probably better adapted to the waste of his conceptions. His master-piece is said to be an "Imitation against the parricide of Henry IV." His poems were printed at Paris in 1651 and 1720. He also wrote Greek, as well as Latin verses, and in the latter language some pieces of prose. His taste was refined and accurate; and as he was much addicted to the use of wine, he expressed his contempt of the French poetry, by saying, "When I read French verses, I think I am drinking water." Although he was afraid of starving, 15,000 livres were found in his strong box at his death. Bourbon published an edition of St. Cyril's work against the emperor Julian, with a Latin translation. Nouv. Dict. Hist.

Bourbon, île de, in Geography, lately called île de la Réunion, an island of the Indian ocean, about 570 miles distant from the coast of Madagascar to the east, and at the distance of about 50 miles to the west of the island of France, was first discovered by the Portuguese, in 1545, who called it Madagascar, after the name of the commander of their fleet; and this appellation was afterwards corrupted into Malagaine. In 1642, Pronis, the commandant at Madagascar, took possession of the island for the French government; and seven years after, says La Barthe, in his "Annales maritimes et coloniales," but, according to others, in 1654, the new commandant, M. de Flancourt, took possession of it again in the name of his sovereign, and gave it the name of Bourbon. He introduced into it domestic animals, which multiplied considerably; and, on account of its fertility, several Frenchmen formed in it settlements. In 1665, two ships of De la Haire's squadron arrived here, and left Renaud, an "officer d'administration," together with 20 labourers. The French, who, in 1671, escaped the massacre at Fort Duaplins in Madagascar, fled to this island; and various sea-faring persons settled in it, and employed themselves in agriculture. From the site of France to this island, the passage may be performed in a day, but the return often requires a month. It is about 40 miles in length, and 30 in breadth. The shores are exceedingly steep, and cannot be approached except by small vessels, without danger. On this account it has few ports; but round the island there are several good roads where ships may ride securely. The soil is more sandy than that of the island of France; and at some distance from the shore it is mixed with thole smooth stones, which cover the bottom of the sea. In those parts, however, which admit of cultivation, the ground is excellent, and well watered by various streams that are supplied in summer by the melting snow, which in winter covers the tops of the mountains. The soil, thus manured, though not deep, is very fertile, and produces Turkey corn and rice, twice a year, and of the latter a great abundance. The mountains are very high; and the three inaccessible peaks, called the "Salle," are said to be 1500 toises. In the southern part of the island there is a tremendous volcano, the district round which, called "pays bleu," is entirely burnt up; and there are many gullies, the declivities of which are so steep that they cannot be cultivated. The island is divided into four quarters. The height of St. Paul, which is the largest and most populous. Their houses are built at the foot of a steep mountain, on both sides of a fresh water lake. Their plantations are on the top of a mountain, which they ascend by a very steep and toilsome passage. On the summit, however, is a spacious plain, divided for the most part into plantations of rice, tobacco, corn, sugar canes, and fruit-trees. The sea at the port of St. Paul is calmer, and the anchoring ground more secure than at St. Dennis; nevertheless, mariners prefer the latter. The quarter of St. Dennis, lies 15 miles from that of St. Paul towards the east; and here the governor resides. This district is more pleasant, though less populous, than the other. The chief port in the island is that of St. Dennis, where a draw-bridge, secured by iron chains, has been constructed for the purpose of enabling boats to land. This bridge extends more than 800 feet into the sea; and at the end of it is a ladder of ropes by which people who wish to go on shore must ascend; in all other parts of the island they must jump into the water. At two leagues from St. Dennis, proceeding along the coast, is the quarter of St. Mary's, which is thinly peopled. The lair and most fruitful district of the island is that of St. Susanne, four leagues from St. Dennis; the passage from one to the other having been with great labour cut through a wood; but the passage from St. Dennis to St. Paul is only by sea.

The sky in this island is serene, the atmosphere pure, and the water savourous. Although the climate is hot, the breezes from the mountains are refreshing; and the hurricanes, which
which commonly occur once or twice every year, contribute to purify the air, and to preserve its salubrity. The island, which the French found at their settlement almost a defect, abounds in fruit, grapes, and cattle of various kinds; the wild goats and wild hogs have retired to the woods and umer-
ness of the mountains; the land tortoises were formerly abundant, but are now found only in the western part, these of the other parts having been exterminated by the crews of ships that have touched upon the island. The rabbits, quails, partridges, and pintades, brought to the island, have none of them increased, except the last. It is said that no venomous animals are found in this island; nor any disagreeable to the sight, except spiders, of the size of a pigeon's egg, which weave very strong nets, capable, as some say, of being rendered as valuable as silk, and a kind of large bats, denominated "oifein bleu," which are skilled and eaten as a great delicacy. The rivers are well stocked with various sorts of fish. Among the vegetable productions we may reckon tobacco, sugar-canes, cotton, tobacco, sarsaparilla, white pepper, the cotton flax, abundance of timber fit for ship-building; and several kinds of fruits, such as the guavas, bananas, citrus, tamarinds, lemons, and oranges. On the shores are found ambergris, coral, and many beautiful shells.

In the year 1717, the number of inhabitants in this island was computed at 2000, viz. 900 free, and 1100 slaves; and with regard to their disposition, they are, generally speaking, gentle and quiet, very industrious, and submissive to just and mild authority; but when it is otherwise exercised, apt to associate and unite in rebellion. In 1763, the population amounted to 4637 white people, and 13,149 blacks; the cattle consisted of 8724 beves, 4814 sheep, 7495 goats, and 7619 hogs. Upon an extent of 125,900 acres of cultivated land, they gathered as much cotton as they could raise their slaves, 1,135,000 pounds weight of grain, 84,100 pounds of rice, 29,9100 pounds of maize, and 2,535,100 pounds of coffee, which last the company bought up at 3d. per pound. Labarthe says, this island produces annually 55,700 weight of corn, 54,300 of maize, and three millions of pounds of coffee. Ever since the French India company became established possessors of this island, they have directed their attention to the improvement of its cultivation; and with this view, they imported into it coffee-
trees from Arabia, which have succeeded so well, as to produce an eighth, and according to some, a fourth part as much coffee as is raised in the Arabian kingdom of Yemen, and next to that in quality. The French have also cultivated tobacco and tobacco leaves, to render the island almost inaccessible. When admiral Bofchen appeared before this island with a British fleet in 1748, he found it to be fortified both by nature and art; that, after some ineffectual cannonading, he was obliged to pursue his voyage. 6 lat. 20° 51' 43" E. long. 55° 59'; which is the longitude of the port of St. Denis, according to the Connaissance des Temps, an. viii.

BOURBON, a small island of Africa, near the coast of Se-
agel. N. lat. 11° 45'. W. long. 15°.

BOURBON, a county of America, laid out and organized in 1783, by the state of Georgia, in the S. W. corner of the state, on the Mississippi, including the Natchez country. Having continued under the jurisdiction of the Spanish ever since their conquest of this part of the country in 1763, it was given up to the United States by the treaty of

BOURBON, Fort, lies in the island of Martinico, in the W. Indies. Altogether, the name given by the French to a principal port in North America, situated on a small island which divides it from Mid-lake; which see.

BOURBON (Archeolands), a town of France, in the dep.
artment of the Alpes, which gave name to a county and to the house of Bourbon; celebrated for its hot medicinal waters and baths. It contains two hospitals and about 2000 inhabitants; 4 leagues W. of Moulins. N. lat. 46° 35' 22". E. long. 4° 39' 39'.

BOURBON, a town of France, and principal place of a district, in the department of the Saone and Loire, celebrated for its mineral springs. It contains three parishes and two hospitals. Its large bath, encompassed with circular walls, and paved with marble, is a work of the Romans; 3 leagues S. W. of Autun. N. lat. 46° 37'. E. long. 4° 50'.

BOURBONNE &c. Bains, a town of France, in the dep.
artment of the Upper Marne, and chief place of a canton, in the district of Langres; the place contains 3136 inhabitants, and the canton 11,925; the territory comprehends 2244 square leagues, and 16 communes. It takes its name from its hot baths; 6 leagues E.N.E. of Langres.

BOURBONNOIS, a province of France, before the revolu-
tion, now the department of Allier, bounded on the east by Burgundy, on the north and west by Nièvre and Berry, and on the south by Auvergne; its climate is very temperate, and it produces in great abundance hemp, flax, wine, potatoes, and wood; it has also found mines of coal, and medicinal springs. Its capital is Moulins. This province was erected into a duchy of France by Philip de
Valois in 1520, in favour of Louis, son of Robert, the youngest son of St. Louis. This duked had two sons, Peter and James; from the latter of whom deftended the house of Bourbon, which was the reigning family in France.

BOURBOURG, a town of France, in the depart.
ment of the North, and chief place of a canton, in the district of Bergues, seated on a navigable canal which communicates with Calais, St. Omer, Dunkirk, Gravelines, &c.; 3 leagues S. W. of Dunkirk, and 3 S. E. of Gravelines. The town contains 2986, and the canton 9466 inhabitants; the territory comprehends 160,000 hectares and 13 communes.

BOURBIAC, a town of France, in the depart.
ment of the North coal, and chief place of a canton, in the district of Guingamp, 5 miles S. of Guingamp. The town contains 2977, and the canton 7646 inhabitants; the territory includes 155,000 hectares and 7 communes.

BOURCHET, a town of the duchy of Luxemburg,
4 miles N. W. of Diekirch.

BOURCHIER, Bowshier, or Bowser, Thomas,
in Biographia, archbishop of Canterbury in the suc-
cessive reigns of Henry VI., Edward IV., Edward V., Richard III., and Henry VII., has no particular claim to notice, otherwise than as he was the principal instrument in introducing the art of printing into England. By defeat, he was related to the noble families in England, being the son of William Bourchier earl of Ferr, in Norfolk, and by his mother, the countess of Stratford, great grandson to Edward III. He was born at Hawskley in Elfre, one of the family seats of the Bourchiers or Bourciers, educated at Oxford, and held the office of chancellor of that univer-
sity,
fitz, from 1413 to 1417. After several inferior preferments in the church, he was elected bishop of Worcester, in the former of these years; invested by the king, with the temporalties of this see in 1435, and consecrated in 1436; his age not allowing of its being done sooner. In 1434, he was elected archbishop of Canterbury, and preferred over the church during 32 years, in the most distracted period of the English government. He enjoyed the prelacy 51 years from the time of his first consecration; an honour of longer duration than any which occurs in the English history, if we except the case of bishop Hough, who was bishop for about 52 years. He was promoted to the office of lord high chancellor of England in 1455, and resigned it, according to Rymer, in the following year, but according to Dugdale, in 1457. In 1464, he received the red hat from Rome, being created cardinal-priest of "St. Cyricus in Thermis." Soon after his advancement to the see of Canterbury, he visited his diocese, and instituted several regulations for the government; and he likewise published a variety of constitutions for the reformation of the clergy and laity, and for restraining the excesive abuse of papal provisions.

Among his benefactions, it is recorded, that he gave to the prior and convent of Christ-church in Canterbury, the alien priory of Cranfield in Essex, the grant of which he had obtained from the crown, in the time of Edward IV.; to the church of Canterbury, he gave a fine image of the Trinity, of solid gold, adorned with precious stones, and a complete set of facerdotal vestments; to his successor, he left 2000l. in recompence for dilapidations; to the church of Worcester, he gave an image of the Virgin Mary, of gilt silver, estimated at the value of 61l.; to the church of Ely, 200 marks for repairing the fleeple; and to each of the universities, he bequeathed about 125l. each, which he ordered to be kept in chells, for the support of poor scholars. The chaff at Cambridge, which was united with Billington's, fulfilled in 1601, when 100l. was borrowed out of it, for the use of the university: but this fund was afterwards embezzled, through the iniquity of the times. The archbishop also left legacies to several monasteries.

Bourchier had the honour of performing the marriage ceremony between Henry VII. and the daughter of Edward IV. Thus, as Dr. Fuller observes, "his hand still held that sweet poise, wherein the white and red roses were tied together." He died at his palace of Knowle in 1486, and was buried on the north side of the choir, by the high altar, in a tomb of marble, round the verge of which is an inscription in old text characters. To the learning of this prelate, the testimonies are very equivocal; no record of it remaining, if we except some synodical decrees, an inquiry into heresies, and a few letters, inscriptions, and addresses to his clergy, which appear to have been merely official. The act that does the greatest honour to his memory, and indeed the only one that claims our particular notice, was his introduction of the art of printing into England. Having been informed, that the inventor, Johann, alias John Gutenberg, had set up a press at Haerlem, he persuaded king Henry VI. to commission Robert Tournier, a gentleman of his wardrobe, to go over privately to Haerlem. This person was furnished with 1000 marks, of which the archbishop contributed 300, and accompanied by Caxton, a merchant of London, embarked for Holland. Concealing both his name and business, he went first to Amsterdam, then to Leyden, and to batsett at Haerlem. After spending much time and money, he at length perfumed Frederic Corfield, one of the compositors, to carry off a set of letters, and to embark with him in the night for London. Upon their arrival, Corfield was sent down to Oxford, and secured from escaping, before the secret was thoroughly divulged, by setting a guard upon the press. Thus, it is said, the mystery of printing appeared ten years sooner in the university of Oxford, than at any other place in Europe, Haarlem and Mentz excepted. Not long after, presses were set up at Westminster, St. Alban's, Worcester, and other monasteries of note. If this account be just, printing was introduced into England, by the care of archbishop Bourchier, in 1464, the third year of king Edward IV. See Printing. Biog. Brit.

BOURDALOUE. Lewis, a celebrated preacher and reformer of pulpit eloquence in France, was born at Bourges in 1632, and entered at an early age, into the society of Jesuits. Having distinguished himself by his proficiency in the studies immediately connected with his profession, and more particularly by his talents for the pulpit, the society determined to assign him the office of a preacher. The reputation which he acquired in the country, induced his superiors to send him to Paris in 1669, where his fame increased, and recommended him to the court; so that he preached before Louis XIV., in the advent of 1670. He continued, for many years, the favourite preacher of the king, though he occasionally animadverted on his personal faults. Upon the revocation of the edict of Nantes, he was appointed by the court, to preach the catholic doctrine to the new converts in Languedoc. His talents were peculiarly adapted to this mission, as he was serious and imperious, and, at the same time, mild and insinuating, and capable of accommodating his addresses to persons of every rank and condition. With respect to the style of his eloquence, M. d'Alcambert, in his "Elloge de Malpillon," represents it as solid and serious, and, above all, strictly logical. Compared with Malpillon, he is said to have been the belle reafloner, and the latter the mod pathetique. It re sounded much to the honour of Bourdaloue, that he had, in a great degree, the merit of an original; the pulpit, when he appeared, "rivalled the theatre in buffoonery, and the schools in dryness." Towards the close of his life, he devoted himself to the service of the hospitals, the prisons, and the poor, and to other offices of charity. His conduct, which was exempt from that laxity of morals that was charged on his fraternity, afforded the belles refutations of the "Provincial Letters." He died in the midst of his pious and benevolent labours, in 1704. His discourses and other religious tracts have been published in two editions, one of 16 vols. 8to, and the other of 18 vols. 12mo. The first is the most esteemed. Novv. Dict. Hill.

BOURDEAUX, or Bordeaux, in Geography, a city and sea-port of France, and capital of the department of the Gironde, including 6 cantons, which contain 112,344 inhabitants, and comprehending 925 kilometres, and one commune. Bourdeaux is seated on the well bank of the river Garonne, about 40 miles from its mouth; and, before the revolution, it was the capital of the province of Guyenne, and one of the most prosperous and flourishing cities of France, but, in consequence of that event, its commerce has suffered much injury. The tide flows quite up to the city; its port is ample and commodious, and ships of considerable burden may load and unload at its quays. It was not unfrequent to see 5000 or 6000 vessels in the harbour at the same time. Its traffic with the West Indies is filled with sugar, cotton, indigo, and other manufactures; its chief exports are wine and brandy, and particularly the via de Bordeaux, which are denominated claret, together with vinegar, fruit, refined paper, honey, cork, &c.; and its imports were woollen stuffs, tin, copper, enameled hangings, leather, salted beef, tallow, druggs, deals, masts for
ships, hemp, pitch and tar. The whale and cod fishery, likewise, formed a considerable branch of the commerce of this city. It had 3 forts, the principal of which is that called "Trumpette," fortified by M. de Vauban, and commanding the harbour. The figure of this city is a kind of half moon; and it consists of 3 foymbours, viz. that of "Chapeau-rouge," that of "St. Surin," and that of "Chartrons," which last is remarkable for its extent, and the beauty of its buildings. Its university was founded in 1441; its academy of sciences and belles lettres was established in 1712, by which belongs a large library; its cathedral is an immense Gothic structure; and its hospital, built without the walls, accommodates a variety of manufactures. The "Place Royale," in the faubourg of "Chapeau-rouge," is adorned with several magnificent buildings, and an equestrian statue of Louis XV. in bronze, erected in 1743. Its theatre is the most magnificent in France, and the actors used to receive extravagant salaries; and as much as London exceeds Paris, so much did Bordeaux, before the revolution, transcend Liverpool. This city has many vennels of Roman art and grandeur; such as the tower-gate, said to have been constructed in the time of Augustus; the amphitheatre, which formed an oval of 227 feet long and 140 feet wide; the palace of Gallienus, of which remain only some walls, and the 2 gates at the entrance; a temple consecrated to the tutelary deities, whose columns surmounted in elevation the finest buildings of the city, and which inlaid almost entire, till the year 1700, when Louis XIV. demolished it, in order to extend the esplanade of the Trompette castle; the fountain of Aubege, celebrated by Aufonius, and furnishing the city with water, &c. The temperature of Bordeaux, upon a mean of 5 years, from 1777 to 1781, was 56° 8'. and the standard temperature of this latitude is 57° 6'. See Kirwan's Climate, &c. p. 87. N. lat. 44° 50' 18'. W. long. 3° 34' 49'.

Bordeaux, a town of France, in the department of the Drome, and chief place of a canton, in the district of Die; the town contains 1181, and the canton 4885 inhabitants. The territory comprehends 1326 square kilometres, and 9 communes.

BOURDEILLES, a town of France, in the department of the Dordogne, 34 leagues N. W. of Perigueux.

BOURDEILLES, Peter de, in Biography, more generally known by the name of Brantome, of which he was abbot, was born of an ancient family of Guivern, in 1527. From his early youth, he devoted himself to the fervile offices of a sinner, without deriving any substantial advantage from the character he assumed, and the adventures in which he was engaged. Although he obtained the honorary dignities of knight of the order of Malta, gentleman of the chamber to the kings, Charles IX. and Henry III., chamberlain to the duke of Alençon, and baron of Richemont in Perigord, he complains of indigence at the approach of old age. He died in 1614, at the age of 87. His memoirs, which have furnished anecdotes and biographical narrations, relative to the time in which he lived, were printed in 10 vols. 12mo.; and the last edition at the Hague in 1741, to which is annexed a supplement, is extended to 15 volumes. These memoirs abound with indecencies and contradictions; and though the anecdotes he has recorded, throw considerable light on the biography and history of the times, his own opinions and observations are entitled to little deference. Brantome, however, is an amusing writer, and his memoirs have had many readers. Nouv. Dict. Hitt.

BOURDEILLES, Claude de, the nephew of the preceding, and comte de Montefro, attached himself to Gaf-
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was a painter on glass. He afterwards studied at Paris, under an artist of no great note, and at the age of 18 years went to Italy, where he very successfully imitated the style of different masters, as Claude Lorrain, Andrea Sacchi, Correggio, and Bamboccio. After his return into his own country, he painted, at the age of 25, his most famous picture, "The creation of St. Peter, in the church of Notre Dame at Paris." But being by religious profusion a Calvinist, he was interrupted in the exercise of his profession by the civil wars; and therefore, in 1652, he removed to Sweden, where queen Christina made him her chief painter. There he had an opportunity of exhibiting a singular display of his different talents. Gustavus Adolphus, the father of Christina, had brought some pictures from the pillage of Prague, which had never been unpacked. Christina employed Bourdon to examine these; and upon his making a favourable report of them, especially those of Correggio, the queen presented him with the whole collection. Bourdon declined accepting them, and informed the queen, that they were some of the finest pieces in Europe, and that he ought not to part with them; accordingly Christina, after his abdication, took them with her to Rome, and made them the basis of a collection, which afterwards came into the possession of the regent duke of Orleans.

After Christina's abdication, Bourdon returned to France, and pursued the exercise of his profession with uncommon fidelity; confining himself frequently to his garret, which was his painting-room, for a month together. He painted in a great variety of styles, and succeeded in all; history, portrait, landscape, pastoral, and grotesque. His chief faults, says Mr. Strutt, are want of force in the colouring, though others ascribe to it great force and effect, and of correctness in the outline; but these were amply overbalanced by the beauties of his composition, the lively fertility of his imagination, the animation of his expressions, and the variety and gracefulness of his attitudes. His virgins in particular are much esteemed; and the bust of his pieces are those that the least admired. Bourdon was one of the twelve persons who, in 1648, commenced the establishment of the Royal Academy, of which he became director. A violent fever terminated his life in 1674, much to the regret of all who highly respected his character as well as genius. Some of his daughters painted in miniature, and some of his scholars became eminent. His principal works are in the churches at Paris, in the gallery of the hotel des-Denonville, at Versailles, Montpellier, and Toulouse. His etchings, which are numerous, are executed in a bold, masterly style; and convey a clear idea of his manner of painting. The lights are broad, the draperies are formed with great taste, and the folds well marked, though sometimes too dark and hard upon the lights; the heads are very expressive; the back-grounds are finely conceived, and executed in a grand style. This master's etchings are held in the highest estimation, of which some of the principal from his own compositions are the following; viz. the "Seven Acts of mercy;" the "Flight into Egypt;" and the "Return from thence;" several subjects of the Virgin and child; in one of which is seen a woman walking linen, hence distinguished by the name of the "waller-woman;" the "Return of the ark," said to be very scarce; the baptism of the eunch; "Twelve large landscapes," very spirited and fine prints. D'Argenville. Pilkington. Strutt.

BOURDON, Alexel, a physician of Cambrai, published, towards the end of the 17th century, "Nouvelles tables anatomiques, ou font représentées toutes les parties du corps humain," large folio, Paris, 1678. Some of the tables are by the author; more from Vesalius. The plates represent-
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the index, and chief place of a canton, in the district of Chateauneuf, and 1 mile N. of it.

Bougé-Loisy, a town of France in the department of Paye-de-Doubs, and chief place of a canton, in the district of Clermont, and 8 leagues W. S. W. of it. The town contains 2155, and the canton 57,879 inhabitants ; the extent of the territory comprehends 215 kilometres, and 10 communes.

Bougre de Lésées, a town of France, in the department of the Ardèche; 6 leagues N. N. W. of Privas.

Bougre-Martrix, a town of Savoy, in the department of Mont Blanc, and chief place of a canton, in the district of Montiers; the town contains 1668, and the canton 11,178 inhabitants; and the territory includes 967½ kilometres, and 13 communes.

Bougre Neuf, a sea-port town of France, in the department of the Lower Loire, and chief place of a canton, in the district of Paimboeuf, seated on the English channel, at the mouth of the Loire, in a bay which it gives name, between the isle of Noirmoutier and the continent. It has a fine bay and harbour; and trades chiefly in fish, made from salt marshes in its vicinity; 61 leagues S. W. of Nantes, and 2 W. N. W. of Machecoul. It contains 2073 inhabitants, and the population of the canton includes 5501; the territory comprehends 185½ kilometres, and 6 communes.

Bougue d'Ogues, a town of France, in the department of the Ière, and chief place of a canton, in the district of Grenoble, and 5 leagues E. S. of it. The town contains 2079, and the canton 12,088 inhabitants; and the territory includes 910 kilometres, and 21 communes.

Bougre de Périgue, or de Valence, a town of France, in the department of the Drôme, and chief place of a canton, in the district of Valence, 1 mile N. of it. The town contains 2339, and the canton 13,113 inhabitants; the territory includes 225 kilometres, and 14 communes.

Bougre le Re, a town of France, and principal place of a district in the department of Paris, and 4 miles S. of it.

Bougre le Roy, a town of France, in the department of the Sarthe, and chief place of a canton, in the district of Frenay-le-vic; 2 leagues S. of Alençon.

Bougre de Fias, a town of France, in the department of the Lot, and chief place of a canton, in the district of Montauban, 8 miles W. of Lauzerte. The town contains 684, and the canton 17,770 inhabitants; the territory comprehends 330 kilometres, and 11 communes.

BOURGACHARD, a town of France, in the department of the Eure, and chief place of a canton, in the district of Touy-Auverme, and 4 leagues E. of it.

BOURGANEUF, a town of France, and principal place of a district, in the department of the Creuse, 5 leagues W. of Aubusson.

BOURG DUN, Le, a town of France, in the department of the Lower Seine, and chief place of a canton, in the district of Dieppe, and 3 leagues S. W. of it.

BOURGOIS, Louis, also called Bouvier, in Biography, an experienced and intelligent midwife, in great repute, the latter part of the 17th and the beginning of the 18th centuries. Her husband was an army surgeon, as she informs us, and had been educated under Ambroise Paré; from him she received instruction in the more difficult parts of the art, so that she was enabled to deliver in some cases, where the assistance of the surgeon was usually thought necessary. In one case she extracted a stone from the urinary bladder, by means of the forceps. It is no wonder, therefore, that she attained to the height of her profession, and should be employed by the ladies of the highest rank, and at length by the queen of France, whom she de-


This was followed by a second and a third part, containing together, a collection of useful facts and observations on every branch of midwifery. "Receuil des faits," &c. 1635, 8vo, containing formulae for the composition of a great variety of medicines, for the cure of diseases incident principally to women and children, in which she appears to have had great skill; also for preparing cosmetics, for improving the complexion. "Recueil véritable de la maison des enfants, et donnes, les enfants de France," containing a register of the births of the children of the queen, with the circumstances attending the labours. It appears that the present made her on the birth of each of the royal infants was, 500 crowns for a male, and 300 for a female child. She had also a pension of 300 crowns per annum, which she was to enjoy during her life. "Instruction a ma fille," Paris, 1644, containing rules for her conduct in practice. These several treaties were collected together and published in 1652, Paris, 12mo. The volume is decorated with portraits of the queen of France, to whom it was dedicated, and of mad. Bourgier. It is also accompanied with copies of verbs to the king's physicians, and to mad. B. Haller Bib. Chur. Med.

BOURGER Mestre. See BOURGER Mestre.

BOURGES, in Geography, an ancient city of France, formerly called Amuricum and Sinjurges, the capital of the department of the Cher, situated at the confluence of the Auron and Eure. Before the revolution it was the see of an archbishop; its university was founded in 1406, by Lewis XI., who was born here, and invested the town with considerable privileges. The college of the Jesuits was a large and magnificent building. It contained 16 parish churches, and many public buildings. The cathedral church is considered as one of the most beautiful Gothic edifices in Europe. The principal manufactures of this place are linen cloth, woollen fluffs, and cloyings, which are sold at its annual fairs; and also its commerce is small. The town contains 15,349, and the district the same number of inhabitants; the territory includes 90 kilometres, and 1 commune. N. lat. 47° 0' 4", E. long. 1° 23' 26".

BOURGÉS, a small town of Savoy, seated on a lake of the same name, about 10 miles long, and from 2 to 3 wide, 6 miles N. of Chamberby. This lake has a fifth unknown in other countries, called "Lavatere," which weighs four or five pounds, and is much valued at Chamberby. Near this lake is an irregular reciprocating spring, which issues from a rock, and is called "La Fontaine de Mer-veille."

BOURGET, Le, a town of France, in the department of Paris; 2 leagues N. of it.

BOURGEOIS, de la Forest, Le, a town of France, in the department of the Mayenne; 3 leagues N. W. of Laval.

BOURGOGNE, a town of France, in the department of the Marne, and chief place of a canton, in the district of Reims, and 5 miles N. of it. The town contains 631, and the canton 11,089 inhabitants; the territory includes 275 kilometres, and 25 communes.

BOURGOING, a town of France, in the department of the Ière, and chief place of a canton, in the district of la Côte-du-Pin, and 2 leagues W. of it. The population of the town includes 3595 persons, and that of the canton 15,062; the territory comprehends 175 kilometres, and 11 communes.

BOURGHEROUDE, a town of France, in the department of the Eure, and chief place of a canton, in the district
Pont-AuJemer, the canton, the being 1,237 Ead divine and 1680. theology, a 1729 necellary Whilil a 1671, printed, estimated obtain large but Suffolk. The in fettle but "French, vols. Amderdam, this andand, (he rrelllefi reanimate. gaged difpolltion, proof plants periodical nal at wards lus, French, tria the hends 1678. BOURIGNON, Geneva, BOURGUKBUS, the territory contains 1075 kilometres, and 30 communes.

BOURGUIET, a town of France, in the department of Calvados, and chief place of a canton, in the district of Caen; containing 405 inhabitants; the population of the canton is 9,391; and the extent of the territory comprehends 1473 kilometres, and 30 communes.

BOURGUEIL, a town of France, in the department of Indre and Loire, and chief place of a canton, in the district of Chinon: 7½ leagues W. of Tours. The town contains 2813, and the canton 14,969 inhabitants; the territory includes 1424 kilometres, and 7 communes.

BOURGUES, E. w. 1713, in Biography, was born at Nimes in 1688, and removing with his family, who were protestants, to Switzerland, on the revocation of the edict of Nantes, he pursued his studies at Zurich. Here he distinguished himself by his application to theology, the languages, mathematics, law, antiquities, medals, and more particularly natural history. His attention was more especially directed to geology, for the cultivation of which his situation among the Swiss mountains was peculiarly favourable. He afterwards settled at Neuchatel, and here became professor of philosophy and mathematics. In 1729 he printed, in French, "Philosophical letters on the formation of falls and cataracts, and on the generation and organic mechanism of plants and animals," &c. 12mo. In the preceding year he had undertaken, with the affiancement of learned colleagues, a periodical work, entitled "Bibliothèque Italique," printed at Geneva, and extended to 10 vols. 8vo. which was esteemed a judicious and useful performance. Bourges had many literary connections, and was a member of several learned societies. Many of his papers were published in the "Journal Helvétique." He died in 1742. Moreni.

BOURGUI NOTTE, a defensive weapon wherewith to cover the head; being a kind of calk, open before, and proof against either pike or musket; its name arose from the Bourguignons, who first introduced it.

BOURGUIGNONS. See Burgundians.

BOURI, in Ichthyology, the Arabic name of Mugil cephalus, Linn.

BOURJON, Antoinette de la Porte, in Biography, an enthusiast of a wild imagination and turbulent disposition, was born at Lisle in Flanders, in 1616. Under a pretense of a divine inspiration and commissiou, she engaged in reviving the true spirit of Chrillianity, which she represented as extinguished by theological anomalies and debates. Her own temper, however, was very different from that truly Christian spirit which she professed to reanimate. Adverse to marriage, though urged to it by her family, which was opulent, she eloped in order to avoid their persuasions; and, after a variety of adventures, became governness of a hospital in her native town, and assumed the order and habit of St. Agustin. Here, however, her relietl and overbearing temper occasioned such disturbances, her, in consequence of the interference of the magistrates, she was obliged to remove to Ghent. One of her converts, named Chriillian Bartholomew de Cord, who had been a Jesuit and priest of the oratory at Mechlin, was owner of part of an island in Holleten, called Noordbrandt. Of this patron of her fanaticism bought an estate in this island, and determined to settle there with her dependants. In the mean while she resided at Amsterdam, and made many profelytes. She also wrote several books, and particularly one, entitled, "The Light of the World," in which she professes to explain her mystical principles. Mollheim suggests, that an attentive reader of her works will perceive, that her intellect must have been in a disordered state; that molt of her divine effusions were borrowed from the productions of the Mystics; and that, by the intemperance of her imagination, she has given an additional air of absurdity and extravagance to the tenets which she had derived from those pompous entusiasms. The predominant principle of her works is this: "that the Christian religion conflicts neither in knowledge nor practice, but in a certain internal feeling and divine impulse, that arises immediately from communion with the Deity." Upon the death of De Cordt, who made this female fanatic his heiress, she left Holland in 1671, with a view of settling at Noordbrandt; but the discouraged many of her disciples from attending her; under an apprehension that their attachment was selfish, and that they wished to obtain a sublimation at her expense. She wrote in French, Dutch, and German, with great facility; and printed her numerous works in a press, which she had set up in her own house. Such, however, were both her principles and temper, and that she exposed her to a variety of persecutions, which disquieted her mind, and made it necessary for her frequently to change her abode. At length she obtained the direction of an hospital in East Friesland, where her time was devoted to the service of the poor, whilst she retained her money under a notion, that the could find none that were devoting objects of her bounty. After a life of vicissitude and vexation, and suffering many insults on account of her religious fancies, she ended her days at Franeker, in 1688. Whilst she lived her followers were few in number; but after her death, her writings were the means of multiplying her profelytes, who were distinguished by the appellation of "Bourjonnits." Amongst these a Cartesian, of a bold and penetrating genius, whose name was Peter Poiret, took the lead; and he drest out in an artful manner, and reduced to a kind of system, the wild and incoherent fancies of Bourjon, in a large work, entitled, "L'Oeconomie Divine, ou Système Univerfield," which was published, both in French and Latin, at Amsterdam, in 1686, in 7 vols. 8vo. In Scotland her notions occasioned a controversy, in which Dr. Cockburn distinguished himself as the opponent of the Bourjonnists. Gen. Dict. Moh. Eccl. Hist. vol. n. p. 514, &c. 8vo.

BOURMONT; in Geography, a town of France, in the department of the Upper Marne, and chief place of a canton, in the district of Chaumont, and 6 leagues E.N.E. from it, seated on a steep mountain; the population of the town is estimated at 1071, and of the canton at 10,370; the territory includes 27½ kilometres, and 26 communes. N. lat. 48° 12'. E. long. 5° 32'.

BOURNE, a market town of Lincolnshire, in England, stands on the southern side of the county, near the borders of Rutlandshire, at the distance of 97 miles north from London. Here have been a castle and a priory, but both are partly destroyed. The outworks, ditches, and some fragments of the former are left to commemorate the spot; and as the fortified area includes about eight acres of land, we may presume that it was a place of considerable strength and importance. "Very large irregular wars," says Mr. Gough, "are on the north and west sides between the two ditches; the earth raised about 20 yards in length, and 10 in breadth, and a ditch between every one of these pointing to the grand mast." These works are said to have been formed by Oliver Cromwell, when he attacked the town. Some of our ancient historians have stated that S. Edmund, king of the East Angles, was crowned at Bourne; but this is contested by Mr. Gough, who places the scene of that event at Bures in Suffolk; indeed this castle does not appear to be connected with any public event till the time of the Danish invasions.
invasions. Some of these marauders' having made an inroad into Lincolnshire, Marcelet, lord of Bourn, with his numerous family and attendants trained in arms, and about 250 men from Croyland abbey, marched against them, and met them at Laundon, where a desperate battle ensued, which terminated in favour of Marcelet and his party. Bourn, as its name implies, is situated in a valley, and has a stream running through part of it, which turns three mills, very near its source. Here is also a medicinal mineral spring, of which the waters are rather brackish, and are found to be serviceable in some disorders. Here are some tanneries, and one parish church, a chapel, and two alms-houses. The markets are weekly on Saturdays, and here are three annual fairs. Vellies of about ten bulls burthen convey articles of commerce, &c. from this place to Spalding, Boston, &c.

That distinguished statesman, Sir W. Cecil, who was created baron Burghley, by queen Elizabeth, was born here in 1521, and poecifed this manor. At an inn in this town was formerly a curious old portrait of queen Elizabeth, on a panel. The town-hall was built by the above nobleman. The township contains 582 houses, and 1474 inhabitants.

At Stanefield, a village a little to the north, is a chalybeate spring, and, according to Dr. Stukeley, many Roman coins have been found here. About four miles hence is Grimthorpe, a seat belonging to the duke of Ancaster. The house, a magnificent structure, stands on a hill in the midst of a large park, which, with its fine woods, and large piece of water, confitute many grand and beautiful scenes. "Grimthorpe," says Fuller, "I may call an extemporary structure, got up on a sudden by Charles Brandon, duke of Suffolk, to entertain king Henry VIII. in his progress to these parts." Since the period of Fuller's writing, this house has undergone many improving alterations, and is now finished and fitted up in an elegant style. Gough's edition of Cambden's Britannia, vol. ii. Fuller's Church History of England.

BOURNASSEL, a town of France, in the department of the Aveyron, 44 leagues N.W. of Rhodiez.

BOURNEVILLE, a town of France, in the department of the Eure; 2 leagues N.W. of Pont Amander.

BOURNEZEAU, a town of France, in the department of the Vendee; 5 leagues N.W. of Fontenay le Comte.

BOURNIQUEL, a town of France in the department of the Lot, and chief place of a caution, in the district of Montauban, seated on the south side of the Aveyron; 13 miles E. N. E. of Montauban.

BOURNOU. See Bournou.

Bourou. Great and Little, two capes at the commencement of the road in the gulf of Salonicia. This road, which terminates at a shoal, which is situated at the head of the gulf, affords good anchorages to ships of every size, and a safe retreat to fleets.

BOURO, one of the Moluccas or Spice islands in the East Indies, lying between Cerem on the east, and Celebes on the west; its shape is oval, the longest diameter extending east and west; about 90 miles in length by 50 in breadth. This isle was nominally subject to the king of Ternat; but in 1666 the Dutch built a fort in the bay of Cagele, or Cayjcl, at the north east end of the island, where the natives who profess the Mahometan religion have a mosque, whole roofs, gradually sliding in a regular gradation one above another, present a very agreeable appearance; and though they burned the exterior woods, they seem to have improved the industry of the inhabitants. This island rises suddenly from a deep sea, being encompassed as with a wall. Part of its northern coast is inhabited by a people who are subjects of the Dutch company, and are governed by their "Ora-cayos," who have each a "dop," or deputy under them. The interior parts, which confit of mountains lofty, that they may be sometimes defied at the distance of 28 leagues, are the haunts of the "Alfores," or wild mountaineers. The fourth coast is now defiled, on account of the continual invasions of the Papuas. The coast, to the east of the village of Cayjcl, is watered by a number of small streams; but to the north-west there is a very considerable river, called by the natives "Aer-Beell," which discharges itself into the road-lead. This river is very deep, and for some distance from its mouth more than 50 feet broad. On its borders is found the beautiful shrub, known by the name of "Portlandia grandiflora." The poodles rolled from the mountains by the rivulets are fragments of "quartz," mixed with mica. Birds, especially parrots, are innumerable, that the island probably derives from this circumstance its name, which signifies, in the Malayan language, a bird. The woods afford abundance of deer, goats, and wild boars. The civet weasel is found in this island, and the curious hog called babirouffas. A green ebony, and a kind of iron wood, are mentioned among the trees, and several other kinds of wood, proper for inlaid work, much valued by the Chineses, and others for dying; and it is not improbable that the clove, and perhaps the nutmeg, defy, in the recesses of the mountains, the wild avarice of man. The figo tree grows here in great abundance, supplying the inhabitants with the principal means of their subsistence, as well as an article of exportation. The "Cayou pouti," of the Malays (Melaleuca laetifolia) grows in great abundance upon the hills; and from this is obtained, by distillation, a great quantity of the oil of cajeput. According to astronomical obervations, made by those who pursued the voyage in search of la Perouse, at the village of Cayjcl, its latitude was 3° 21' 54" S. and longitude 137° 21' 0" E. The dip of the magnetic needle was 20° 30'. Its variation, observed on board, was 0° 54'. The highest point indicated by the thermometer (Reaumer's) on board was 23°, and on shore 25° 58°. The mercury in the barometer varied only from 28 inches 1 line to 26 inches 2 lines. The time of high water on the full and change days was three quarters after twelve; it then rose to the perpendicular height of 6 feet. Voyages in search of la Perouse, drawn up by M. Labillardiere, vol. ii. p. 308, &c. Eng. ed.

BOURO, is also a small island, north of the island of Sumatra; 5 leagues N.E. of Acheen.

BOURON, a town of European Turkey, in Romania, the see of a Greek bishop, seated on a lake of the same name, and 15 miles distant from the coast of Archipelago.

BOURRE, in Ornithology. According to Salerne, the common or domestic duck is called boure in Normandy, and the ducklings bouret.

BOURRE, in Zoology, is also a word in use in France to express the hair of several quadrupeds, such as the ox, the buffalo, the horse, flag, &e. Thus also they have the designation of boure de corps for the woolly kinds, and boure de force for that of a silky texture.

BOURREE', F. the air of a dance so called, is supposed to come from Auvergne, in which province it is still in use. The tune is in common time, and begins with an odd crotchet. Rouleau.

BOURKERIA, in Botany. See Ehetria.

BOURRIQUE, in Zoology, synonymous with l'antifer, the hnc-afs.

BOURSAULT, EDMNE, in Biography, a French dramatic writer, was born in the province of Burgundy, in 1638; and by lingual affinity, though his education was
altogether neglected in his youth, attained a very accurate acquaintance with the French language. After his settlement at Paris, he was employed by M. the Capucin, in composing a work for the Dauphin, entitled "The true Study of Sovereignty," which was so well received, that the author would have been appointed a prior to the Dauphin, if he had understood Latin. For a weekly gazette in verse, with which he amused the court, he obtained a pension; but, on account of an immoral attack upon the Capucin, a complaint was lodged against him by the queen's Spaniard confessor, who belonged to that order, and in consequence of it his gazette and pension were suppressed, and he himself was in danger of being confined in the Bastile. In a similar gazette he afterwards introduced a satire on the prince of Orange, which political considerations induced the court to suppress. At length, however, he was appointed receiver of the tithes at Montéron, where he died in 1701. As a writer for the stage, Bourault was distinguished by his talents for agreeable ridicule, united with good sense, and also by an harmonious verification, as well as a style that was easy and adapted to its subjects. His "Éloge à la Ville," and "Éloge à la Cour" still retain their reputation on the theatre. An attack upon Boulain, by way of retaliation for some personal reflections in this author's satires, prevented the introduction of his piece in one act, entitled "La Satyre des Satyres," on the stage; but it was afterwards printed with a preface. Some years afterwards, Bourault, by his polite attention to Boulain, conciliated his friendship, and induced him to infuse some other name terminating with ode, in his satires. Bourault also wrote tragedies and operas; and his dramatic works were published in 1746, under the title of "Théâtre de Bourault," in 3 vols. 12mo. His letters, miscellaneous pieces, and romances, are now forgotten. Nouv. Dict. Hist.

BOURSE, in Ichthyology, in the fishes of France and Madagascar, the common name of all the fishes of the Téronon genus. In the French American colonies, baliste casta (balistes recta) bears the same name. Lacépède like- wise alludes the word bourse as a specific name to a new species of balistes deforced by Sonnerat, the first dorsal fin of which has three rays; the second is pointed; tail forked; and below the eye a black banded spot.

BOURSIER, Lawrence-Francis, in Biography, an eminent theologian and metaphysician, was born at Ecouen, in the diocese of Paris, in 1679, and entered into the Sorbonne in 1700, where, in 1711, he obtained the degree of doctor. As he devoted himself to study, he received several benefits which were offered to him; and, at the age of 31, acquired great celebrity, both as an eloquent writer, and profound reasoner, by a work entitled "The Action of God on the Creatures," or "Physical Promotion proved by reasoning," 2 vols. 4to, and 6 vols. 12mo. This work was highly extolled by the Jansenists; and Voltaire speaks of it (Age of Lewis XIV.), as deeply argued for, learned, and sometimes extremely eloquent. It involved him in a controversy with the famous Malebranche. He was also the author of a memoir presented to Peter the Great by the doctors of the Sorbonne, concerning a proposed union between the Russian and the Latin churches, which originated from a conference held by the author with the czar, on his visit to the Sorbonne. His other works, which were numerous, chiefly related to the disputes that subsisted in the Gallican church. In 1729, he was one of many doctors who were expelled the Sorbonne; and from this time he was under a necessity of securing his personal liberty by living in privacy. He died at Paris, in 1749. Nouv. Dict. Hist.

BOURSIERS, in Entomology, the cantver latro. Rochef.

BOURTOFT, in Geography, a town and fortress of Glemggen; 12 miles S.S.W. of Windhotten.

BOURTH, a town of France, in the department of the Eure; 2 leagues N.W. of Vernon.

BOURTHES, a town of France, in the department of the Straths of Calais, and chief place of a canton, in the district of Boulogne; 4 leagues S.E. of Boulogne.

BOURTY, or Botry, a village of Africa, in the kingdom of Ania, on the Gold coast, seated on a small river, at the foot of an escarpment, on which the Dutch have built an irregular and mean fort, of an oblong form, divided into two parts, each defended by four small pieces of cannon. The fort was built by one Carolus, in the service of the Dutch, who afterwards passed into the pay of France, and obtained that privilege from the king of Ania, an acknowledgment of his superiority by a flight tribute. This fort is called Badenlyn; its batteries command the village of Bourty, which has no other commerce besides the gold trade carried on with the negroes of Adom. The inhabitants are of a mild and gentle disposition, much attached to the Europeans, whom they consider as their protectors. In 1768, the Dutch concerted a plan for forming sugar-plantations, which alarmed Sir Dalby Thomas, and the English governor at cape Coast, who represented to the Royal African company the danger of permitting the Dutch to execute a scheme, which would diminish the value of the British colonies in the West Indies. These sugar-plantations, the plan of which was thus counteracted, never answered the great expectations of the Dutch.

BOURY, in Zoology, a species of ox, that inhabits Madagascar. It is of the size of a camel, of a hufy white colour, and, like that animal, has a protuberance on the back. Boury is the name by which this kind is called by the natives.

BOUSCH, or Bouch, in Geography, a town of Upper Egypt, situate about a quarter of a league from the west bank of the Nile, and 4 miles N.E. of Beniolen. The houses are built of brick, and the roofs are elevated in the form of pigeon-houses. The inhabitants occupy the ground-floor, and the pigeons the first, a practice which is general through the rest of the Iubai. These houses, which make some figure at a distance, exhibit on entering them only tokens of wretchedness in the midst of an abundantly rich country. In this town is occasionally held a considerable market for cattle and provisions. The canal of Bousch formerly poured its waters into the river for six months of the year. At present it conveys them through the whole year into the lake Moeris, which does not receive a sufficient quantity by Joseph's canal, half choked up as it is, to admit of its overflowing any to the Nile.

BOUSIER, of the French Entomologists. See Corbis.

BOUSK, in Geography, a river of Peru, which discharges itself into the Peruvian gulf, near Border Hik.

BOUSSE, a town of France, and principal place of a district, in the department of the Creuse, 6 leagues N.E. of Guéret. The place contains 586, and the canton 757 inhabited; the territory includes 3394 kilomètres, and 17 communes.

BOUSSANGERS, a town of France, in the department of the Herault; 6 leagues N. of Béziers.

BOUSSEIRE, a town of France, in the department of the Doubs, and chief place of a canton, in the district of Berno; the town contains 547, and the canton 795 inhabitants; the territory comprises 155 kilomètres, and 25 communes.

BOUSU,
BOUSSU, a town of France, in the department of Jemappes, and chief place of a canton, in the district of Mons; the town contains 1832, and the canton 15,541 inhabitants; the territory includes 833 kilometres, and 14 communes.

BOUSTROPHEDON, common in ded of tow, bullets, and words. It is used in speaking of the ancient method of writing among the Greeks, wherein the lines were continued backwards and forwards, like the furrows in ploughing.

Pompeius (ib. c. 27) mentions several ancient inscriptions written in this manner; the laws of Solon are said to have been thus written; which, as the author last cited explains it, is when the second line is turned on the contrary side, beginning at the end of the former, thus:

EX AIOS AR

VORAX

Potter, Arch. Graec. lib. i. cap. 26. tom. i.

BOUT, in Ornithology. Under this name Buffon describes two birds of the Crotaphaga genus; namely C. act, as le petit bout de Peuc; and C. major, as le grand bout de Peuc.

BOUTA, in Ancient Geography, a town of Africa, in Libya Interios, near the source of the river Cinipha, according to Prokemem.

BOUTADE, in Myth, an irregular flight or movement without art or fancy. The word was also formally used for a solo on the violin di gamba, thus called as being supposed to be extemporary.

Richet speaks of a dance called boutade, invented by the famous Bocan, in the reign of Lewis XIII. it called from the brisk humorous manner of its beginning; but now out of use.

BOUTAIL, in Ichthyology, the local name of a certain kind of fish, that is used to inhabit the lakes, ponds, and fresh waters, in the East Indies, where it is also called the Neogen venen. Ray describes it under the name of lamaptara indica. It is conjectured that this must be long to the lamprey, or petromyzon genus, from the accounts of authors who speak of it; but whether really so, or not, it is difficult to determine.

BOUTAN, in Geography. See Boutan.

BOUTANT, in Architecture. An arc or buttress, serving to sustain a vault; and which is itself sustained by some strong wall, or massive pile.

The word is French, and comes from the verb buter, to butt, or but.

A pillar Boutant is a large chain or pile of stone, made to support a wall, terrace, or vault.

BOUTE, in the Marsi. A horse is called bute, when his legs are in a straight line from the knee to the quarter; short-jointed horses are most apt to be bute.

BOUKOUJA, in Geography, a town of Peris, in the province of Ghilain; 120 miles N.W. of Refad.

BOU ON, or BORON, one of the Molucca or rather Celebrian islands, in the Indian sea; situated about 13 miles to the south-east of Celebes. It is a large and woody island, and is a kingdom of itself, to which the neighbouring islands belong. The king of Bouton is in alliance with the Dutch company, who pay him a yearly sum of 150 rix-dollars, or 371. 14s. 6d. Reeling in new Dutch coin, upon condition, that he should not only permit the extirpation by the company of all the clove-trees in this and the neighbouring islands, but also assist him in effecting it. For this purpose, the company annually send out a serjeant, who is styled the "extirpator," and who goes through all the woods in the islands, and causts all the clove-trees which he meets with to be cut down. The king of Bouton is obliged to provide for him guides and interpreters, and also vessels, if he should need them. But as this contract has not been regularly fulfilled, the government in Java has thought proper to withdraw this pecuniary allowance, at least for one year, in order to induce this prince to adhere more rigidly to his contract, and to be more active in effecting the company to destroy this rich production in his country, for the benefit of Archipne and Batau. The passage between Bouton and the Tocuan-beffis is the second dangerous part of the navigation; for ships going to the Molucca or Spice islands; the other being that of the "Badgerons." The former channel is, indeed, wider than the latter, being about 4 leagues in breadth from the narrow port of Bouton to the westmost end of the Tocuan-beffis; but the danger is of longer duration, on account of the numerous small islands that form the cluster called the "Tocuan-beffis," all of which are either connected or surrounded by rocky shoals, over and between which very rapid currents set strongly to the northward; besides, a large and dangerous flat, called the "Hesivy," or horse-flat, lies one or two leagues out of them, upon which many vessels of the company have been wrecked. In the narrow part of the passage is a bay running into the land, wide and north, into which vessels are in danger of being driven by the currents which set to the bay, if the point opposite Tocuan-beffis be approached too near in calm weather. From this bay there is no escape till the west monsoon sets in again; and some of the company's ships have been under a necessity of remaining in it for one or two months. From this circumstance, the navigators have given it the name of "Dwuri," or Milakay-bay. The principal town of this island is Calafusbur, situated about a mile from the sea, on the top of a hill, and surrounded by walls. The inhabitants are small, but well-shaped, and of a dark olive complexion. Their huts are erected on piles; and their religion is Mahometan. Stavorinus's Voyages to the East Indies, vol. ii. p. 350. S. lat. 5° 15' E. long. 125° 35'.

Bouton de Camifolle, in Conchology, a trivial name in France for trochus labes of Linneus.

Bouton de la Chine, the Linnean trochaire niloticus.

Bouton de Rose, a species of Bulla, ornamented with red bands, bulla splifera of Linneus.

Bouton terrebre, the common name of a terrestrial snail, figured by D'Argenville. It is the helix reticulata of Linneus.

BOUTONNE, in Geography, a river of France, which runs into the Charente, or leagues E. of Rochefort; passing by St. Jean de Angely, and navigable to that town.

BOUTS-RIMES, a popular term in the French Poetry: signifying certain rhymes, disposed in order, and given to a poet, together with a subject, to be filled up with versc ending in the same words, and the same order. The invention of the bouts-rimes is owing to one Da Lot, a poet, in the year 1649. In fixing the bouts, it is usual to chuse such as form the remotest, and have the best connection.

Some good authors fancy, that these rhymes are of all others the easiest, that they afford the invention, and furnish more new thoughts than any others. Bannain has a poem on the defeat of the bouts-rimes. The academy of Letters, at Thoulouse, have contributed towards keeping in countenance the bouts-rimes, by proposing each year a set of fourteen, to be filled up on the glory of the grand monarque: the victorious sonnet to be rewarded with a fine medal. An instance hereof may be given in the following one, filled up by P. Comnart:

Tout
BOU

Tout est grand dans le roi, l'aspect seul de son
beau

Read nos Sieurs ennemis plus bons que des

Et Guillaume n'attend que le tems des

Pour se faire concemmer tous un bras fi

Qu'on ne nous vante plus les miracles d'

Louis de bien regner leur feront des

Horce en vain l'egale aux deux dans ses

Mains que mon heros il etoit fage et

BOUAILLICK, in Ornithology, synonymous with ca-

zula, filipicus, which see.

BOUTTONNEE, Fr. in Heraldy, is applied to the seed

of a rose, when it is represented of a different colour from the

flower by which the English call seeded, e.g. a rose gules seeded.

BOUVERET, in Ornithology, the French name of loxia

aurantia.

BOUVERON. Under this name loxia sinae is de-

scribed by several French writers, Brillou, however, calls it

petit lovec rur d'afrique.

BOUVIER, the name of matametis sinew. Salern. On.

BOUVIERA, in Ichthyology, a name given by some

writers to a small fresh-water fish, found in the clear streams

of France and Germany, The French call it bourvire. It

also bears the name of lubula. This is cyprinus amanus of

naturalists.

BOUVIERE, the common name in France of cyprinus

amans.

BOUVIGNES, in Geography, a town of the Nether-

lands, in the county of Namur, feated on the Meuse. Near

Bouvignes, which was formerly surrounded with a wall, and

had a drum cable, are the remains of an ancient city, called

'Chieremouet,' the inhabitants of which committed many

depredations, and defended themselves with valour against

Charles the Simple in 922, against Otho in 939, and against

Bruno archbishop of Cologne, in 969. But it was at length

taken and destroyed, in 992, by Notger, bishop of Liége.

It is distant four leagues S. from Namur.

BOUVINES, or Pont-a-Bouvines, a village of Fland-

ders, feated on the river Marque, 3 leagues S.E. of Lille,

where Philip Augustus obtained a great victory over the

emperor Otho in 1214.

BOUVREUIL, in Ornithology (Buffon, &c.), loxia

fynhola of Linnaeus and other yfnicmeate writers; and

bull, of the English. Bouvreuil, in a more general sense,

implies all the birds of the Loxia genus.

BOUXIERES-AUX-DAMES, in Geography, a town of

France, in the department of the Marnthe, 1 league N. of

Nancy.

BOUXWILLER, a town of France, in the department of

the Lower Rhine, and chief place of a canton, in the dis-

trict of Savern; 6 leagues N.W. of Straugburg. The town

contains 2700, and the canton 12,264 inhabitants; the ter-

ritory includes 105 kilometres, and 21 communes.

BOUZANNE, a river of France, in the department of

Indre, which rises near Agurande, 7 leagues from Argent-

on, and discharges itself into the Creuse, near Clufem.

BOUZDOGAN, a town of Asiatic Turkey, in the pro-

vince of Natoila; 24 miles N.W. from Mogla.

BOUZE, a town of France, in the department of the

Cote d'Or, and chief place of a canton, in the district of

Beaune; 1 league N.W. from Beaune.

BOUZEK, a town of Asiatic Turkey, in the province

of Caramania; 32 miles E.N.E. of Kir-isch.

BOUZILLES, a town of France, in the department of

the Mayane and Loue; 1 league S.E. of Ancenis.

BOZULI, a town of France, in the department of

Vendée, and in the district of Montaigu; 5 miles south

of it.

BOZKIR, a town of Asiatic Turkey, in the province

of Natoila; 30 miles S.S.E. of Beihthri.

BOZOLS, a town of France, in the department of the

Upper Loire; 1 league S. of Puy-en-Velay.

BOZONVILLE, a town of France, in the depart-

ment of the Mofelle, and chief place of a canton, in the dis-

trict of Thionville, and 5 leagues S. of it, feated on the

Nied. The town contains 1400, and the canton 12,740

inhabitants; the territory comprehends 190 kilometres, and

40 communes.

BOW, Arrows, a weapon of offence, made of wood, horn,

or other elastic matter; which, after being strongly bent, by

means of a string fastened to its two ends, in returning to its

natural state, throws out an arrow with great force.

The bow is the most ancient, and the most universal of all

weapons: and has been found to obtain among the most

barbarous and remote people, who had the least com-

munication with the rest of mankind.

Its invention was ascribed by the ancients to Apollo, and

2 was said to have been first communicated to the primitive

inhabitants of Crete: Hence, even in latter ages the Cretan

bows were famous, and preferred by the Greeks to all

others. Some, however, rather chose to honour Perseus, the

son of Perseus, with the invention; while others ascribed it
to Scythes the son of Jupiter, and progenitor of the

Scythians, who were not only excellent at the bow, but by

many reputed the first masters of it. (Potter's Arch. Grec.

&c.) All these different tales, however, serve but to show that

its antiquity must be referred to the remotest periods of

history.

The earliest mention in the Old Testament, where the use

of the bow is implied, is in that remarkable passage where

Hagar and her son, driven from the houte of Abraham,

wander in the wildernefs of Beer-sheba. Of Ishmael it is

said (Gen. 21. 21), "And God was with the lad, and he
grew, and dwelt in the wildernefs, and became an archer."
The connection of which with the fifth preceding chapter

(xvi. 12.) implies an earlier practice with the bow than any

that can possibly be adduced from the profane historians.
The overthrow of Saul was particularly owing to the

Philistine archers. (1 Sam. xxxi. 3.) and (2 Sam. i. 18.)

We are told, who succeeded him, "bade them teach the

children of Isahah the use of the bow: behold it is written in the

book of Jasher."

The practice of the bow indeed, at this time, appears to

have been so general, that it was not unfrequently made use

of as a figure of speech. Israel, when bleeding his sons,

(Gen. xlix. 23, 24.) says of Joseph, "The archers have

gorely grieved him, and shot at him, and lashed him. But

his bow abode in strengthe, and the arms of his hands were

made strong, by the hands of the mighty God of Jacob."
The companies that came to David at Ziklag (1 Chron. xii. 2.)

were armed with bows, and could use both the right hand

and the left. Its earliest application was undoubtedly to the

purposes of food; and accordingly, when Isaac sent

Elau to the foreiff, he said, "Take, I pray thee, my

weapons, thy quiver, and thy bow, and go out to the field,

and take me some venison."

The fabulous writers of antiquity ascribe, that Teutars, a

Scythink, first gave Hercules a Scythink bow and arrows

(Lycoptron. Caffandria, v. 56;) and Theocrates mentions it

by the name of the Martian bow.

From the Scythians, it was derived to the Grecians, some

of whose ancient nobility were instructed by the Scythians

in its use, which in those days passed for a most princely

education (Potter, Arch. Græc. tom. ii. i. iii. cap. 4.

Aquin. Lcxi. Milit. ii. 260.) The Scythink was distingui-

ished
guished from the Grecian bow, as well as from that of every other nation, by the singular incurvation of its shape, which was so great as to form a half-moon or semicircle (Amin. Marcullius, l. x.); whence the shepherd, in Athenaeus, being to describe the letters in Thelaus's name, and expressing each of them by some apposite resemblance, compares the third to the Scythian bow, meaning not the more modern character of 2, but the ancient C, which is semi-circular, and bears the 3d place in octoïdēc. Among the ancients, the bow-string, called τιθος, was made of horse's hair, and thence called σαβρος; though Homer's bow-strings are frequently made of hides cut into small thongs; whence σαβρος, The uppermost part of the bow, to which the ftring was fastened, was called καρπος, being commonly made of gold, and the laft thing towards finishing the bow.

The Grecian bows were frequently beautified with gold or silver; whence we have mention of aureus arcus; and Apollo is called απόστοις. But the matter of which they were ordinarily composed, seems to have been wood; though they were so anciently, Scythian like, made of horn, as appears from that of Pandarsius in Homer (Iliad. ii. v. 103. Potter Arch. Grec. tom. ii. cap. 4.)

Till the second punic war the Romans had no bowmen in their armies, but such as came with their auxiliary forces. (See Potter, ut supra)

The bows of the Arabians, who attended Xerxes's expedition, were long, flexible, and crooked, (Herodotus Polymn. i. x.) The Bactrians also had their bows and arrows (Ibid. i. xiv.) and among the Indians they are still retained.

In drawing the bow, the primitive Grecians did not pull back their hand towards their right ear, according to the fashion of modern ages, and of the ancient Persians (Procopius de bello Perico, i. 11.) but, placing their bows directly before them, returned their hand upon the right breast (Enhathus, Iliad. 6. p. 344. &c.). This was likewise the custom of the Amazonian women, who are reported to have cut off their right breasts, lest they should prove an impediment in shooting.

The most barbarous nations often excel in the fabric of the particular things which they have the greatest necessity for, in the common offices of life. The Laplanders, who support themselves almost entirely by hunting, have long had an art of making bows, which they sell, in the improved parts of the world, have never arrived at.

Their bow is made of two pieces of tough and strong wood, shaved down to the same size, and flattened on each side; the two flat sides of the pieces are brought closely and evenly together, and then joined by means of a glue made of the scales of perch, which they have in great plenty, and of which they make a glue superior in strength to any which we have.

The two pieces, when once united in this manner, will never separate, and the bow is of much more force to expel the arrow, than it could possibly have been under the same dimensions, if made of only one piece.

Having thus traced the early history of the bow, and evinced its general use, we now come to its history as principally confined to England. The bows in use have been of two kinds; the common or long-bow, and the cross-bow: but as the Saxon bow appears to have differed from them both, our readers may not be displeased to read the description of it separate. Its particular use among the Anglo-Saxons and the Danes has already been mentioned: their skill, however, does not appear to have been extended beyond the purposes of procuring food or warfare: and the representation of a Saxon bow, as given in an ancient MS. of the tenth century, (MS. Cott. Claud. B. iv.) shews it was made very different from what one might expect in a military weapon; the string not being fastened to the extremities, but suffered to play at some distance from them. In size too it was a mere toy, compared with the long-bow of succeeding ages. (Strutt's Sports and Pastimes. p. 39.)

The history of the long-bow has been already detailed, under the head of Archery. We have here little else to add, than that a variety of acts of parliament, passed in different reigns, tended much to the encouragement of those who used it. In 1432 (12 Ed. iv. c. iii.) four bow-slaues were ordered to be imported, with every ten of merchandise, from Venice; and by other acts, passed in the first of Richard III. the sixt of Henry Vili. and the thirteth of Elizabeth, ten bows for every butt of manty; Malmyre or Tyre wine, at that time came chiefly from Giotto, which then belonged to the Venetians; and the price of bows, it appears, had risen from 40s. to 8l. a hundred (Arch. vol. vii.) In the 38th of Henry Vili. the price of a yeare bow was reduced to three shillings and four pence. (Ibid.)

In the ages of chivalry its use was considered as an essential part of the education of a young man, who wished to make a figure in life: and even the ladies, as in later times, partook of the amusement. It is said of Margaret the daughter of Henry the VII. that when she was on her way to Scotland, a hunting party was made for her amusement in Alnwick park, where she killed a buck with an arrow. (Leland's Collect. vol. iv. p. 278.) And the use of the bow was more than once practised by queen Elizabeth. The ladies, however, might probably have used the cross-bow.

James I. lifted one or two commissions for the prevention of enclosures in the grounds which had formerly been used for the practice of the bow; agreeably to which, the archers' grounds in the immediate neighbourhood of London were reduced to the same rate they were in in the beginning of the reign of Henry VIII. (Strutt's Sports and Pastimes. p. 14.)

Among the ancient charters preferred in the British Museum (Kol. i. 8.) is a petition of the bowyers, fletchers, archer-head-makers, and string-makers, dated 1635, requesting the king to appoint Richard Adams and Jeffery Le Neve to put in force the statute of the thirty-third of Henry VIII. It was referred by the king to the privy council; and a commission, the original of which, with the broad seal annexed, is in the fame collection (xii. 68.) was afterwards directed to "Timothie Taylor, John Hobart, Henry Hobart, and Jeffery Le Neve for the maintenance of artillery, archery, and shooting in long-bows; to enforce an act of the thirty-third of Henry Vili. that all persons under 60 years of age should use and exercise in shooting in long-bows; and that men children, from 7 to 17 years of age, should be instructed in the same." This it seems, was one of the last acts by which public encouragement was given to archery. The great body of the people, from the improvements that had been made in military tactics, were not likely to support the commissioners in what was now proposed: and the troubles which were rising turned the attention of the legislature to more serious objects.

Acham (Toxophilus, 1571. 410.) says, it was necessary for the archer to have a bracer, or close sleeve, to lace upon the left arm, that the bow string, when loosed from the hand, might not be impeded: to this was to be added a floating glove, for the protection of the fingers. The bow, he tells us, should be made with well-tapered wood, and formed with great exactness, tapering from the middle towards each end.
found the long bow a more effectual weapon; though the
French, even in the reign of Henry V., after the English
bow had often proved superior in execution, to the great
cost of their cannon, were still attached to the cross-
bow; and Henry V. as Duke of Normandy, confirmed the
charter and privileges of the Balfarin, who had long been
established as a fraternity at Rouen.

Their use, under our two last Henrys, has been already no-
ticed as frequently forbidden; and by the statute of the 15th
of Henry VIII., a penalty of ten pounds was inflicted on
every one who used a cross-bow might be found.

From this time they seem to have been chiefly used for killing
deer (see Shakespeare's Henry VI.), till, in 1679, they
were again used by the English as a military weapon, in the
expedition to the island of Rouen. (Gent. Mag. vol. liii.
p. 209)

The cross-bow is of a most inconvenient form for carriage,
even with the modern improvements; and in case of rain
could not be easily secured from the weather. After the
first shot, moreover, it could not be re-charged under a con-
derable time, whilst the bolts are also heavy and cumbersome.
The English long-bow, on the other hand, together with
the quiver of arrows, was easily carried by the archer,
easily secured from rain, and re-charged almost instantaneously.
It is not therefore extraordinary, that troops, who
frequently used this most effectual weapon, should generally
obtain the victory, even when opposed to much more numero-
sous armies. (Barrington's Observ. on Archery, Arch.
vol, viii.) The reach of the cross-bow was confined; that of
the long bow more extensive; although, when the armies
were opposed at no considerable distance, the quarrels of
the former might possibly be poured in with the most regular
effect.

Bow, or Stratford-le-Bow, in Geography, is a vil-
lage of Middlesex, in England, seated on the river Lea, at
the distance of about two miles and a quarter from London.
The village has no particular claims to public notice, but from its
ancient bridge, which crosses the river Lea at this place.
This structure is said to have been the first arched bridge
erected in England. Stowe, Oldbid, and some other antici-
papers, concur in ascribing its first building to Maud, or
Matilda, the queen of Henry I.; and thence some writers
consider it to be the original tradition of its being the most ancient
arched stone bridge of this country. The learned Stowe
relates, that Matilda had been "washed in the water, in palling
this dangerous ford," and to provide against such accidents
in future, caused this, and another smaller bridge to be
erecied, "arched like a bow," and thus the term, "arched bridge,
"which he further observes, "was a rare piece of work; for before that time the
Lea had never been ford in England." An old bridge of three
arches still occupies the place of the original structure.
Through this place, and over this ford, pulled the ancient
Roman road, called Watling Street, from London (London)
Canterbury (Coke's Eng.) From this arched bridge, and the name St. 
ford, this place evidently derives its name.

At a short distance northward are the Temple-Mills,
which anciently belonged to the knights Templars, and
afterwards to the knights of St. John of Jerusalem. In the
year 1520, they were used for brick works, but are now
appropriated to the manufacture of sheet lead. (Lyon's Envir-
ons of London, vol. iii. p. 386)

Bow, a small market town of Devonshire, in England, sit-
ed on the banks of one of the branches of the river Tor. De-
prived of the advantages of manufacture, and situated at a dis-
fance from the great turnpike road, this place is fast sinking
into decay, and at present consists of only 102 houses, most of
which
which are occupied by the peafantry. Yct here is a small show of a market on Thursday, and it has two annual fairs. A few blacksmiths, carpenters, and shoemakers, are the principal tradesmen of the place. It is 188 miles W. of London; the parish contains 677 inhabitants.

Bow, an iflant in Lough Erne, county of Fermanagh, Ireland, on the northern part of the lake, and one of the largest in it, being three miles long, and one a half broad. It is well-wooded, and contributes much to the beauty of the lake. It is about 15 miles from Enniskillen.

Bow, an iflant in the South Pacific Ocean, about 10 leagues in circumference. S. lat. 13° 23'; W. long. 141°.

Bow, a township of America, in Rockingham county, New Hampshire, feated on the well bank of Merrimack river, south of Concord, and 53 miles from Portsmouth; containing 568 inhabitants.

Bow, in Mosaic, denotes a machine that serves to play, or give the found to, volis, violins, and other instruments of that kind, by drawing it gently over the strings thereof.

The bow consists of three parts; the fift is the flick, or wood, to which the hair is fastened; the fccond is composed of about eighty or an hundred horse-hairs, or filaments of silk; the third is the nut, a fort of half-wheel, which fervices to keep the hairs in the due degree of tension.

The ancients do not appear to have been acquainted with bows of hair: in lieu of these they ftruck their instruments with a plec trium; over which our bows have great advantage, for giving long and short founds, and other modifications, which a plec trium cannot produce.

Bow, in Trade and Manufactures, denotes a flexible instrument confifting of a piece of fleece or iron, to the two ends of which is fastened a cat-gut, used by fmiths, watch-makers, and other artificers, for the piercing and turning of divers farts of works.

This is more peculiarly called a draw-bow. It is sometimes falso made of wood, whalebone, and the like.

Operators in Mosaic have a fort of bow made of a piece of eflatic wood, with a fraft wire fastened to the ends of it, which ferves to faw hard and precious flones. Letter-fellers have also a bow whereby to keep the matrix even.

See Foundery.

Bow, among Builders, denotes a beam of wood, or frafts, with three long fereves, that govern or direct a fath of wood or ffeel to any arch; chiefly used in drawing draughts of ships, and projeltions of the sphere, or wherever it is requisite to draw large farches.

Bow, in Navigation, an instrument formerly used for observing the altitude of the fun, in order to determine the latitude of the ship.

This instrument consists of the five following parts; viz. fift, an arch, or portion of a circle, capable of containing upwards of ninety degrees, whence the name of the instrument; fccond, a ftraight rod or bar, equal in length to the radius of that circle of which the arch is a portion; and three vanes, called the figh, fhadle, and horizon vanes.

The arch of the bow is divided into 90 degrees, and numbered from the top downwards; and these degrees are subdivided into halves, quarters, or tenths, &c., according as the fize of the instrument will admit; but the common method is to divide the degree into three equal parts, and by means of concentric arches and diagonal lines, the subdivisions may be carried as low as two minutes.

One end of the radius or ftraight bar is put into a perforation in the arch at 45 degrees; and the horizon vane, having a narrow fhit in it, through which the horizon is to be feen at the time of obfervation, is to be put upon the other end of the radius. The fhadle vane, which is sometimes fitted up with a convex lens, is placed on the arch above 45 degrees; and the fight vane, having a small perforation, through which, and the fhit in the horizon vane, the fight is to be directed to the horizon, is put on the arch below 45 degrees. These two vanes are moveable upon the arch. The manner of using this instrument is as follows:

1. To observe the meridian altitude of the fun with the bow.

With the latitude of the ship by account, and the fun's de-inition, find the effimate meridian altitude, which will be equal to the fun, or difference, of the complement of the latitude of the ship by account, and the de-inition of the fun, according as they be of the fame, or of a contrary de-nomination. Then place the fhadle vane to any whole degree, as much above 45 degrees as amounts to nearly half the effimated meridian altitude, and the fight vane is to be placed as much below 45 degrees. Now let the obferver look to the opposite point of the horizon with respect to the fun, and hold the bow vertically, and in due manner that the horizon may be feen through the fhit in the horizon vane, the eye being placed at the fight vane; then, if the bright folar fpot, from the lens in the fhadle vane, is upon the fhit in the horizon vane, the fight vane is in its proper place; if not, the fight vane is to be raifed or defpelled accordingly: continue obferving in this manner, until the fun has attained its greatest altitude; and the degrees, and parts of a degree intercepted between the fiducial edges of the two vanes, will be the fun's meridian altitude; and hence the true latitude of the ship may be found as usual.

When the fun begins to fall, that is, when the altitude diminishes, or the fun is past the meridian, the folar fpot will appear above the fhit in the horizon vane, that fhit and the horizon being in one.

2. To observe the altitude of the fun, when off the meridian, by the bow.

Let the altitude of the fun, at the time of the obfervation, be effimated; then place the fhadle vane to any whole degree, as much above 45 degrees as is about half the altitude by effimation; and move the fight vane upwards or downwards, until the folar fpot is upon the fhit in the horizon vane, at the fame time that the horizon is feen through the vane; and the intercepted degrees and parts of a degree upon the arch, between the fight and fhadle vanes, will be the altitude of the fun.

Bow, in Ship building, that circular part of a ship in which the item is in the middle, and its extremes near the foremost part of the fore-chains. A proper form of a bow is of the utmost conquence. A vessel with a sharp bow will, ceteris paribus, fall farther in smooth water than one with a falt bow; but in a high sea, she will plunge and dive greatly more, and thereby diminish her rate of falling. A proper medium between these two extremes, confident with the form of the ship, is, therefore, to be employed. M. Bouguer has paid very particular attention to this subject; and he has given a great number of tables, deduced from algebraic formulæ, for the construction of bows that will meet with the leafl refillance, and that will have the greatest velocity, or of such as will render a ship more capable of carrying, and at the fame time will divide the fluid with the greater facility; also, of the greater motion which, he says, differs in some cafes from that of the greatest velocity. M. Bouguer observes, that it is very doubtful whether that figure, which meets with the leafl refillance in dividing the water, may be the most advantageous to acquire the greatest degree of velocity: for it is
possible that a bow which meets with a little more resistance may render the ship capable of carrying a proportionable quantity of more sail, although the two bows, which may be distinguished by naming the one that of the lee resistance, and the other that of the greatest velocity, should have such an affinity to one another that one should, in a great measure, partake of the most essential properties of the other.

Bow, *Bold*, a full high bow.

Bow, *Lean*, a sharp bow, having little bearing or support, so that, in a rough sea, a vessel with a bow of this kind is apt to pitch greatly, which retards her rate, and also to ship much water.

Bow, *Starboard*, that part upon the right-hand side of the stem, to a person on deck looking forward; and that part upon the left-hand side is called the *larboard bow*.

Bow, *Wentling*, is that part of the bow towards the wind when a ship is close-hauled; and the other part is called the *lee bow*.

Bow, *On the*, an expression used to denote the position of any object, as a ship, the land, &c. appearing in the direction of some particular part of the bow. If the ship is sailing directly towards the object, it is said to be *right a-head*; if not, the object is said to be on the *larboard*, or on the larboard bow; or it is said to be on the *wentling*, or on the lee bow. If the object is in the direction of any particular part of the vessel, with respect to the observer, as the cat-head, &c. it is then said to be right over the cat-head.

The position of an object, with respect to the course of the ship, may be estimated by the intercepted portion of the horizon between them; and in this case it may be expressed either in points of the compass, or in degrees, but the former is most commonly used. Hence, if from a ship running N. by W. with her larboard tacks aboard, a light or fair wind was observed to bear N.W. by N., it would be said to bear two points upon the lee bow.

When the angle, contained between the object and the ship's course, is greater than four points, it is usual to express the bearing from the beam, thus, in place of saying that an object bears six points on the larboard bow, it is expressed to bear two points before the beam.

Bow-fanter, an Under officer of the foremast, who is to observe and take notice of all manner of trespas against vert or venion; and to attach, or caufe to be attached, the offenders in the next court of attachment.

Bow-compaies. See Compass.

Bow-dyes, a new kind of scarlet-red, superior to madder, but inferior to the true scarlet-grain, for mixtures and dura- tion. It was brought into England, and first practised at the village of Bow, near London, by Kepler, a Fleming, in the year 1643; whence its name.

In the year 1667, another Fleming, named Brewer, invited to England by Charles II., with the promise of a large salary, brought this art to great perfection. Thafe accounts, how- ever, and the names of the persons, are extremely dubious. Anderson's Commerce, vol. ii. p. 77. Beckman's Hist. Invent. vol. ii. p. 206.

Bow-legged, in Surgery. See Bandy-legs.

Bow-net, or *wheel*, an engine for catching fish, chiefly lobsters and crabs-fish, made of two round wicker-baskets, pointed at the end, one of which is thrust into the other; at the mouth is a little rim, four or five inches broad, somewhat bent inwards. It is also used for catching sparrows.

Bow, rain. See Rain-bow.

Bows of a faddle, are two pieces of wood laid archwise, to receive the upper part of a horse's back, to give the saddle its due form, and to keep it tight.

The fore-bow, which sustains the pommel, is composed of the withers, the breadth, the points, or toes, and the coking.

The hind-bow bears the trusslequin, or quilted roll.

The bows are covered with finewas, that is, with hulls pizzles beaten and fo run all over the bows, to make them stronger. They are likewise strengthened by bands of iron, to keep them tight. It is on the lower side of the bows that the saddle-strap are nailed; the use of which is to make fall the girths.

Bow pieces, a gun, or piece of ordinance placed in the bow.

Bow-grace, or *Bow-grafe*, a frame or composition of old ropes, or junk of cables, used to be laid out at the bows, stems, and sides of ships, to preserve them from bodies or fields of ice, when, in high latitudes where these are expected.

Bow-flower. See Gardling of bow-flowers.

Bow-flower. See Saw.

BOWDOIN, in Geography, a township of America, in Lincoln county, and district of Maine, on the north-eastern bank of Androscoggin river: distant from York, north-easterly, 36 miles, and from the mouth of Kennebec river 6 miles, and 166 N.E. from Boston. It contains 593 inhabitants.

BOWDOINHAM, a township of Lincoln county, and district of Maine, separated from Portland borough, and Woolwich south-east, by Kennebec river. It lies 171 miles N.E. from Boston, and contains 455 inhabitants.

BOWED, in Botany, (arcuatus), bent like a bow; a term expressing the direction of filaments, and the figure of a legume. It is employed also by Garret, to denote that figure of the cotyledons which is found in some of the Leguminosae and Liliaceae, in canella, myrtus, cylius, scorpius, &c. and that figure of the embryo which occurs in allium, moraca, apharagis, &c.

BOWEL-CALLED, in Farriery, denotes a laceration occasioned by the tightness and heat, or friction, of the girths, just behind the elbows of the fore-legs, and is soon hardened and obliterared by two or three applications of a soft sponge, impregnated with common vinegar.

BOWELLING, *eveneration*, the act of pulling out the entrails of an animal. Bowelling makes part of the progress of embalming.

Bowelling is also a part of the punishment of traitors in England, who are to have their bowels ripped open, torn forth, and burnt before them. *Tractation, suppuration, declination, eveneration, & querulation adjuvivit.* Knight sub. Edw. ii. in the feast of Hugh Spencer.

BOWER, ARCHIBALD, in Biography, a native of Scotland, was born at or near Dundee in 1656, educated in the Scots college at Douay, and admitted, in 1706, into the society of Jesuits at Rome. After some varieties of situation and employment, during the succeeding interval, he at length, viz. in 1723, settled at Macerata, where, according to his own account, he performed the office of councillor to the Inquisition: conceiving disgust, as he states the fact, at the enormities committed by this tribunal, or, as his enemies
affronted, charged with incontinence, he removed, in 1726, to Perugia, and secretly made his escape to England. Of the circumstances attending his escape he has given a very ample account; but his written documents and oral testimony have been found to differ in several particulars from each other, and of course his integrity was not only suspected but reproached. Soon after his arrival, he was introduced by Dr. Aspinwall to Dr. Clarke and to Bishop Berkeley, from intercourse with whom, added to his own reading and reasoning, he obtained, as he says, the fullest conviction that many of the favourite doctrines of the church of Rome were not only repugnant to scripture and reason, but wicked, blaspheous, and utterly inconsistent with the attributes of the deity. Under the impression of these sentiments he withdrew himself from the Roman communion, and abandoned the order with which he had been connected. His mind feems at this time, according to his own account, to have been in a state of scepticism and indecision on the subject of religion; and though he continued a Protestant for about six years, he connected himself with no particular denomination of Protestant Christians. At length, however, he conformed to the church of England, alleging that this church was "as free in her service as any reformed church from the idolatrous practices and superfluities of popery, and less inclined than many others to fanaticism and enthusiasm." By the recommendation of Dr. Goodman, physician to king George I., he obtained patronage in the family of Lord Aylmer, and was entrusted with the education of two of his lordship's children. By Lord Aylmer, he was introduced to Lord Lyttleton, who considered him as a kind of religious confessor, and remained his active friend and zealous advocate, even when he was defeated by almost every other person of any distinguished reputation. Whilst he lived with Lord Aylmer, he formed a connection with the book-sellers, and was employed, first, in a monthly publication, entitled "History Literaria," and afterwards in the compilation of the "Universal History." The part of this work which he undertook was the Roman history; but in the execution of it he is charged by his coadjutor, George Phalanusas, with having unduly extended it in some parts, and in others, particularly in the Byzantine history, with having injuriously abridged it. By the emoluments accruing from his tuition and writings, he accumulated a considerable sum of money, the disposition of which led to discoveries which very materially injured his character, and subjected him to just reproach. According to his own statement, he proposed to purchase a life annuity with this money, amounting to £100 l. of old South-Sea annuities; but being disappointed in these views, he negotiated with Mr. Hill, a Jesuit, respecting the loan of it; and obtained from him an interest equal to that which he might have made of it by the purchase of the annuity in which he was disappointed. A very different account of this transaction has been given by those persons who have questioned his integrity; and it must be acknowledged, that it is accompanied with much kind of evidence, as leaves little room for hesitation in admitting the credibility of it. They allege, that being desirous of re-admission into the church, which he had abandoned, he made use of his money in a way which would serve to recommend him to the superiors of the society with which he wished to be re-united. Accordingly, he proposed to Father Shirburn, then provincial in England, to deliver up to him, as representative of the society, his whole flock, on condition of their granting him a life-annuity, of 7 per cent. The offer was accepted; and Bower paid at sundry times sums of money, amounting in the whole to £350 l. and stipulated by a bond to receive yearly 94 l. 10s. In consequence of this negotiation, Bower was re-admitted, in a formal manner, into the order of Jesuits, at London, about the end of the year 1744, or beginning of the year 1745. Afterwards he determined, for reasons not satisfactorily ascertained, to separate from the order of Jesuits; and upon leaving them he obtained a return of his money. When a second edition of the "Universal History" was in contemplation, the book-sellers, very unfortunately for themselves and for the credit of the work, engaged Bower to revise and correct it; but though he received a considerable sum of money, not less than 300 l. he published it without any material emendation. In 1747 he announced to the public proposals for a "History of the Popes," the first volume of which was presented to the king in the following year. In recompense of his labour, Mr. (afterwards lord) Lyttleton, obtained for him the place of keeper of queen Caroline's library; and his credit being somewhat revived, he married a niece of bishop Nicholson, with a fortune of 4000 l. His "History of the Popes" was continued, in successive volumes, printed at different periods. In 1754 his unalterable friend, Mr. Lyttleton, appointed him clerk of the buck-warrants, a place which, though of no great emolument, evinced his continued attachment. In this year the first attack was made on his "History," which the advocates of popery considered as peculiarly hostile to their church, in a pamphlet printed at Doway, entitled "Remarks on the two first volumes of the late lives of the popes," 8vo.; a publication ascribed by Mr. Bower to a pamphletプリントされた名前はButler, one of the most active and dangerous emissaries of Rome in this kingdom. But an event soon happened, which was much more ruinous to the reputation of Mr. Bower, and which sunk him into total disgrace; and this was the divulging of his correspondence with the Jesuits. The charges alleged against him were repelled with spirit by himself; but his veracity, though attested by an affidavit, was questioned; and he had fearlessly any friend left besides lord Lyttleton. In the course of this controversy, he was in danger of being exhibited on the stage, as a mock convert of profligate character, by Mr. Garrick, on account of the manner in which he mentioned that incomparable actor and his lady, in his "Summary of the controversy between the papists and the author," 4to. But Mr. Garrick, by the mediation of lord Lyttleton, was induced to wave that public shaftesmiff which he had intended. The reputation of Bower's history declined with his own; the fourth volume was published during the agitation which the controversy in which he was engaged had produced; the fifth appeared in 1763; and the sixth and seventh volumes were prefixed to the public a little time before his death; and whatever may be the estimation in which the preceding volumes deserve to be held, these two are executed with such haste as to deserve very little regard. The whole period from 1600 to 1723 is comprehended in 26 pages! Bower died in 1766, at the age of 80; and he left a will, dated in 1749, which contained no written declaration of his religious principles, agreeably to the practice which very much prevailed in those times, and which, in his peculiar circumstances, might have been reasonably expected. His widow, however, sometime after his death, attested his having died in the Protestant faith. New Biogr. Dict. 8vo. 1798.

**Bower, Lady's, or Virgin's, in Botany. See Clematis.**

Bower, in Gardening, a shady place, under covert of trees or branches interwoven. A bower differs from an arbour, in that the latter is always built long and arched, but a bower either round or square at the bottom, and made with a fort of dome or ceiling at the top. See Arbours.

**Bower-anchors, left and small, in Sea-Language.** See Anchor.
BOWES, in Geography, a town of Yorkshire, England, is more noted for its former than present confluence. During the abode of the Romans in Britain, this place was chosen for one of their military stations; and from an interred altar found here, it appears, that, in the reign of Severus, when Vitruvius Lanus was legate and proprietor of Britain, the first cohort of the Thracians was in garrison here. Hoffley, in his Britannia Romana, says, "there is an old castle here, which, with the church, stand in the north part of the old Roman axation, and no doubt have been built out of the ruins of it." About two furlongs south of this axation (called Luviania) runs the river Greta.

Bowes is included in that division of the county of York, called Richmondshire, in the north riding, at the distance of 4 miles from Barnard Castle, and 248 miles north from London. The town consists of one long street, running east and west, and contains 120 houses and 670 inhabitants. Here is a weekly market on Fridays, and one fair annually. This parish includes the three townships of Bowes, Boldron, and Gilmonby. The surrounding country, consisting mostly of moors and commons, abounds with coal and lead mines, which, with the royalty, belong to the proprietor of Carlton Hall.

About two miles from Bowes, is a singular natural curiosity, called God's bridge, which is formed by a rude arch of freestone. This stretches across the river Greta, the waters of which are precipitated over different ledges of rocks, and soon afterwards sink beneath the surface, and continue through a subterraneous passage of about half a mile, which can again emerge into light through some rocky cavities. Gough's edition of Camden's Britannia. Hutchinson's Tour to the Lakes, 8vo.

BOWETS, or Bowes, among Falconers, denotes a young hawk when the draws things out of her nest, and covets to chimney on the houghs.

BOWGE of court. See Bouche of court.

BOWLS, denotes either a ball of wood for the use of bowling, or a vessel of capacity for holding liquors.

Bowl-throw. See Wassen-bowl.

BOWLING-flower, a species of small flowers, of an indeterminate texture and figure, generally roundish, found on the flowers of the sea and banks of rivers. Bowlers, or bowlder-tones, are only humps and fragments of stones or marble, broken from the adjacent chips, and rounded by being bowled and tumbling to and again by the action of the water; whence the name bowlder-tones, as being formed by an action like that of a ball, and thereby reduced to the shape of one. Neither the bowlers nor rubble-tones are ever involved with an exterior strong crust or skin; it is plain from the manner of their formation they cannot. This is one mark by which they are distinguished from pebbles, pebbles, or other native nodules, which were formed before the subsiding of the matter of the flats, and are always covered with such a crust or skin, unless it has been worn off.

BOWLE. Jowett, in Biog. Dict of Idiomology near Salisbury, was a descendant of Dr. John Bowle, bishop of Rochester in the 17th century, born in 1625, and being admitted of Oxford college, in the university of Oxford, took the degree of master of arts in 1730. He had the honour of being, according to Dr. Douglas's account, the original detector of Lander's forgeries, for the purpose of injuring the reputation of Milton. He was the author of a "Letter to Dr. Percy," and editor of Don Quixote in Spanish, and of Marlow's Satires, and some old poetry in English. He died in 1788. New Biog. Dict.


BOWLINE, in Sea-language, a rope fastened near the middle of the leech, or perpendicular edge of the principal square sail, by three or four subordinate parts called bridles, and leading forward towards the bow, and hence its name. It is always used when the wind is so unfavourable that the sails must be all braced sideways, or close-hauled to the wind; in this situation, the bowlines are employed to keep the weather or windward edges of the principal sails tight forward and steady, without which they would be always flitting, and rendered incapable of service. Neither the sprit-raise, nor sprit-raise top-fail has bowlines, as there is no place forward to which they could lead, and therefore these fails cannot be used when the vessel is upon a wind. The bowlines of the fore-sail, fore-top-sail, and fore-top-gallant-sail, lead to the boatsprit. Those of the main-sail, main-top-sail, and main-top-gallant-sail lead to the foremais; and the mizen-top-sail, and top-gallant bowlines lead to the main-mast.

To check or set the bowline, is to slacken it, when the wind becomes large, or more aft; and when the wind comes more a-head, or the ship lies nearer to it, so that any particular sail is flitting, or nearly so, it then becomes necessary to get the weather-leech of that sail forward more, that the sail may stand, or be kept full; and the order for this purpose is to haul towards, or take a pull of the weather bowline belonging to that sail.

BOWLINE-bridles, the ropes by which the bowline is fastened to the leech of the sail.

BOWLINE-knot, a particular kind of knot which will not slip, by which the bowline bridge is fastened to the cringle. See Knot.

BOWLING, the act or art of throwing bowls. Bowling, among us, is chiefly the name of a game or exercise, practised either in open places, as bares and bowling-greens, or in close bowling-alleys. The skill of bowling depends much on a knowledge of the ground, and the right choice of a bowl suitable to it: for close alleys the flat ball; for green towards plain and level, the bowl as round as a ball is preferred.

The terms used in bowling, are, to bowl wide, which is when the bias does not hold; or is not strong enough; narrow, when it is too strong; or holds too much; finely bowled, is when the ground is well chosen, and the ball passes near the block, even though it goes much beyond it; bowling through, or a yard over, is done in order to move the block; an over-bowled, that which goes beyond it; a bowl laid at hand, is that put down within the gambler's reach, to be in the way of the next bowler, and hinder his having the advantage of the block ground; bowling at length, neither bowling through nor short; a dead length, a just or exact one; throwing or flinging, is discharging a bowl with a strength purposely too great for a length, in order to carry off either the block or lone near block; bowl-room, or mowing-room, is when a bow has free passage, without striking on any other; get off, is when a bow being narrow, is wanted to be wider; bow left at block, that nearest the block; drawing a card or bowl, is to win it by bowling nearer, without flitting either the bowl or block; a bowl is said to fail, when it meets with some obstacle in the ground which retards its motion, and weakens its force; it is gone, when far beyond the block. Block signifies a little bowl laid for a mark, also called a jack. Mark, is a proper bowling distance, not under to many yards; and being at least a yard and a half from the edge of the green. Ground, a bag or
handkerchief laid down to mark where a bowl is to go. Lead, the advantage of throwing the block, and bowling straight. Call, is one bowl bow at an end. End, a hit, or when all the bowls are out. The game, or up, is five calls, or five bowls.

BOWLING-GREEN, in ornamental Gardening, is a spacious plot laid even with turf in pleasure, or other grounds, designed for the purpose of ornament, as well as amusement, in the hummer leam, in bowling upon.

These sorts of compartments should mostly be formed as near the houses or habitations as possible, being laid out on the back fronts so as to serve by way of lawns to such parts as they may be situated in; as at the termination of walks or avenues. They may also be contrived amid detached contiguous plantations, or wildernefs quarters, to serve as portions of yard ground, or as openings to such places, and should always, if possible, have tall trees so situated on the boundaries, as to afford shade, especially in the afternoon. The dimensions must vary according to circumstances; but where there is scope of ground sufficient, they should not be less than from half an acre to an acre. The most common form is that of a square moderately extended; but some are made oblong, others circular, though, to suit the general plan or figure of the ground, they may be of any other form, so as to avoid the garden-ground. Their boundaries may also be spacious planted borders of either the straight or serpentine kind. The plane or surface of the greens should be perfectly level, and as high, at least, as the general level of the adjoining ground, so as that it may be always preferred from fragment moisture.

In forming these plots, the surface should be levelled in the most exact manner, and laid with the finest grass turf that can be procured from a clofe planter, common, or down. See TURF. The extent and proper levels of the greens are then set out with flake or squares placed round the extremities or boundaries, at fifteen or twenty feet distance, on which should be marked the determinate levels of the ground, and from which, on the opposite sides, levels in other crofeways at the same distance should be made; and then, according to these levels, proceed by line and fpace to form the ground to a proper surface, making it up firmly in lines from flake to flake; the pannels or spaces between being made up equally firm and regular, fo that no part may sink in a hollow afterwards. The whole should then be raked level, and finished off evenly and smooth. Two or three inches deep of light sandy soil, or any light dry poor earth may then, if necessary, be laid even over the surface, as equal in quantity as possible, by that means the turf or grass will form a moft level, regular, and even fward.

The grassy surfaces should always be formed by laying them with fresh cut turf, as being much superior to the method of only fowing them with grass seeds. The turfs should be cut each a foot wide, a yard long, and about an inch thick, and laid with exactness, closely joining them edge to edge, then beat them well down with large wooden beaters, repeatedly rolling them with a large heavy iron roller.

The best season for performing work of this fort is the autumn, or very early in the spring; but the first is to be preferred when it can be conveniently done, as the turf has time to establish itself well before the hot feanon sets in.

In order to keep bowling-greens neat after being thus formed, they require frequent mowing in summer, probably once or twice a week, or oftener, in order to keep the grass sufficiently fine and short for bowling, as well as occasional rolling to preserve the surface firm and even. When wormy calls are much thrown up over their surfaces, they should be poked occasionally to break and scatter them, and then well rolled with a wooden roller, to which the scattered earthy particles may adhere, and the surface be thereby made more clean. See Polling Grass. Where coarse weeds, as the dock, dandelion, &c. prevail themselves, they should be wholly eradicated, to prevent their seeds from being dispersed over the surface, and new plants thereby raised which would prove injurious, and render the turf unfit for the purpose of bowling upon.

BOWLING-Green, in Geography, a village of Virginia in America, situated on the north-road, 22 miles S. of Frederickburg, 48 N. of Richmond, and 25 N. of Hanover court-houfe.

BOWNESS, in Geography. See BORROSTOWNESS.

BOWSE, in Sea-language, an order to all the people employed in hauling upon any particular rope, to pull together. Beroft away, that is pull away, and all at the same instant.

BOWSPRIT, a large boom or spar projecting from the bow of a fhip, over the item, and hence its name. The bowspirt makes an angle with the keel, which is various, according to the fancy of the builder; being, in general, between twenty degrees, and three points or upwards, as the height of the bowspirt at the cope, above a horizontal line at the keel, extends from one third to one half of its length. According to Mr. Chapman, the elevation of the bowspirt of a merchant fhip ought to be three-sevenths of its length, and in fhips of war four-sevenths. This elevation of the bowspirt is called its fleeving or fiving. Mr. Gower is a strong advocate for diminishing the fleeving of bowspirts, and upon this subject he expresses himself as follows: 'As every position of the rudder, except a middle one, takes from the speed of the vesflel, it should be preferred as much amidfips as possible. Almost every fhip under full fail, with a fide wind, carries a weather-helm; to counteract which, it is recommended to lower the fleeving of the bowspirt to one angle of five or ten degrees with the keel, and to increase the jib-boom in froundness, that a large jib of strong canvaf may be carried in moft weathers. With the bowspirt lowered, it will be better without a spritfail yard; and let the jib boom be secured from the cat-heads and item, by a flanding and travelling guy on each fide, and a fanding and travelling martingale.' In cutters, schooners, luggers and shallops, the bowspirt is nearly parallel to the keel.

The length of that part of the bowspirt which is without the item, is generally equal to the extreme breadth of the fhip. In trading fhips, the celebrated Mr. Chapman makes the bowspirt to be equal to the fum of the extreme breadth, and one-tenth of it; and in fhips of war, it is equal to the fum of the extreme breadth, and three-twentieths of the fame. Thus, if the extreme breadth of a fhip is 32 feet, the length of that part of the bowspirt beyond the item will be 35.2 for a merchant fship, and 36.8 for a fhip of war.

The diameter of the bowspirt is equal to half the fum of the diameters of the main and foemails.

As the safety of the foemail depends greatly upon the bowspirt, every precaution, therefore, is used to have this belt well fecured. The keel is firmly falted to the decks; that part of the bowspirt at the item is strongly falted thereto by several turns of a rope, which is called the running of the bowspirt; and the hulley connects the lower part of the item or cutwater with that part of the bowspirt at the foemail.

BOWYER, William, in Biography, an eminently learned printer, the fon of a printer of the fame name, was born in London, December 17th 1669; received his grammatical education under Mr. Ambrose Bowwicke, a non-juring clergyman
clergyman of acknowledged piety and learning; and was admitted, in 1746, as a hazar at St. John's college, in the university of Cambridge, where he continued for six years, and probably took his degree of bachelor of arts. Although his disposition was naturally reserved, yet he cultivated, during his residence at college, an intimate acquaintance with several respectable members of the university, and particularly with Mr. Markland, who was the father of Mr. Clarke, with whom he maintained through life a regular correspondence, which furnished a valuable treasure of polite literature and sound criticism. When he left Cambridge, he squatted as a school-master for the benefit of the family of Mr. Bonwicke, who died in 1722: and thus testified his gratitude for the allowance he had received from him in his education, at a time when the whole property of his father was destroyed by a fire. Having performed this act of kindness and of gratitude, he joined his father in the printing business; and began with a correct and complete edition of Selden's works by Dr. David Wilkins, in 3 vols. fol. As he read the proofs sheets, he drew up an epitome of the treatise 'De Synedriis.' This work was followed by an admirable sketch of William Baxter's Glossary of the Roman Antiquities; in which Bowyer sufficiently evinced his literary talents. In 1729, he was appointed printer of the votes to the house of Commons, which office he held for nearly 50 years. It is hardly necessary to mention the part taken by him, in 1731, in a controversy which is now sunk into oblivion. It produced, however, on his part, a pamphlet entitled "The traditions of the clergy not destructive of religion; being remarks on Mr. Harman's sermon, exposing that gentleman's deficiency in Latin and Greek, in ecclesiastical history and true reasoning." In the same year he printed, and is supposed to have translated, Voltaire's Life of Charles XII. of Sweden. In 1736, he was admitted a fellow of the Society of Antiquaries, of which he was an affiduous and useful member. His translation of "Trapp's Latin Lectures on Poetry," with additional notes, was published in 1742: and about the same time he corrected and formed anew an useful school-book, entitled "Selectæ ex profunis scriptoribus historiae." We should far exceed the bounds of this article, if we were to mention the prefaces, notes, and various additions, which he contributed to the works that issued from his press. We shall content ourselves with noticing some of the principal of this kind. In 1743, he wrote, as it is supposed, a small pamphlet on the present state of Europe, chiefly taken from Puffendorf; and, in 1746, he published the "Life of the emperor Julian," translated from the French of M. Etiètme, with curious notes, and a genealogical table. In 1750, he annexed a preface critical disquisition, and some valuable notes, to Kuller's treatise, "De vero uti verborum mediorem," which was published, with further improvements, in 1757. About the same time he wrote a Latin preface to Locke's "Veteres postea citati," &c., and soon after improved an edition of col. Bladen's translation of Cæsar's commentaries. In 1751, he wrote a long preface to Monteflini's "Reflections on the rise and fall of the Roman empire," translated the dialogue between Sylia and Socrates, and improved the edition by several corrections from the baron's "Spirit of Laws," as well as by his own notes. Of this work a new edition, with additional notes, was printed in 1759. In the same year (1751) he published the first translation that was made of Rousset's paradoxical oration, which gained the prize of the academy at Dijon, in 1750; and thus he first announced that singular genius to the attention and admiration of Europe. To Mr. Bowyer we are indebted for the notes signed (B) in the 4th volume of Swift's works, extracted from letters, which were printed but never published. His "Remarks on the speech made in common council, on the bill for permitting persons professing the Jewish religion to be naturalized, so far as it is usual," was intended for the purpose of allaying the ferment occasioned by the Jews bill in 1755, and of shewing, that whatever political reasons might be alleged against the bill, Christianity would in no degree be prejudiced by the indulgence proposed to be granted to the Jews. In this year also appeared his notes, annexed to bishop Clayton's translation of "A journal from Grand Cairo to Mount Sinai, and back again." In 1761, Mr. Bowyer was appointed printer to the Royal Society; and he had the honour of retaining that office till his death. Without mentioning other publications, in which he was concerned either as a writer or as an editor, we shall proceed to notice an excellent edition of the Greek Testament, in 2 vols. 12mo., which appeared in 1763, under the following title: "Novum Testamentum Graecum, ad fidem Graeciorum folum codicium MSS. nunc primum impressum, adhibitis J. J. Wettenio, justa sectiones Jo. Alberti Bengelii diviniti; et nova interpretationis ad ejus ilustribus. Accedunt in altero volumine emendationes conjecturales viarum doctrorum undique collectae." This edition was sold with great rapidity; and the conjectural emendations were well received by the learned. There were separately published, with very considerable enlargements, in one volume, 8vo., in 1762. A new and corrected edition of this Greek Testament, with the conjectures, in 4to. much enlarged from the margin of Mr. Markland's Testament, and by new communications from bishop Barrington, professor Michaelis, M. Stephen Welton, Dr. Gollet, &c. was printed by Mr. Nichols, in 1782 and 1783, under the inspection of the learned Dr. Owen, with his remarks. At the request of Thomas Holby, esq. Mr. Bowyer wrote, in 1765, a short Latin preface to Dr. Wall's "Grammatica Linguae Anglicanae," a larger English preface, written by him, and intended for that work, is communicated to the public in his "Miscellaneous Tracts," published by Mr. Nichols in 1785, 4to. In 1766, he formed a partnership with Mr. Nichols, who had been trained by him to the profession, and had afflicted him several years in the management of business. This connexion with a person, whose disposition was amiable and communicative, and who resembled himself in his solitude, by literary researches and publications, to promote the cause of literature, engaged the prosecution of views and plans similar to his own; and warranted a confidence which enabled him to withdraw, in the declining state of his health, from the fatigue of active employment. It also afforded him greater leisure for indulging his own studious inclination. Accordingly, in this year (1766) Mr. Bowyer wrote an excellent Latin preface to "Joannis Hardium, Jefuiti ad conum suorum scriptorum veterum prolomogena," in which he gives an account of the nature of the work, and of the manner in which it had been preferred. About the same time were published Mr. De Mily's remarks on the extraordinary production of the celebrated Jefuit, in a Latin letter to Mr. Bowyer. In 1767, he was appointed, by the recommendation of the earl of Marchmont, to print the journals of the house of Lords, and the rolls of parliament. In this year he printed Mr. Clarke's learned work, entitled "The connection of the Roman, Saxon, and English coins," with notes by himself, together with a disquisition on the Roman selters, which was partly his own production, and an excellent index of his own compilation. In 1771, the late Matthew Raper, esq. communicated to the Royal Society a very ingenious "Inquiry into the value of
of the ancient Greek and Roman money," which was printed in the Philosophical Transactions; and Mr. Bowyer published, "Remarks," on this dissertation, which he intended as an appendix to Mr. Clarke's treatise on coins. Three small tracts were published by him in 1773, under the title of "Select Dicciplines: 1. of the correspondence of the Hebrew months with the Julian, from the Latin of professor Michaelis; 2. of the Sabbathial years, from the same; and 3. of the years of jubilee, from an anonymous writer in Maffon's Histoire Critique de la Republique des Lettres;", and in 1774, he corrected a new edition of Schrevelius's Greek lexicon, to which he added a number of new words, collected in the course of his studies. Of his critical skill in the learned languages he left in MS. many evidences, which appear in the additions made by him to the lexicons of Hederic and of Duftart, the Latin ones of Faber and of Littellon, and the English dictionary of Bailey; and also in the corrections and enlargements of Leigh's "Critica Sacra," and Dugard's "Lexicon Græci Tamenti alphabeticum," together with his notes on Mid- dleton's Life of Cicero, Duncan's and Bladen's Cæsær, Theocritus, Horace, and Pope, and an allaining number of critical remarks on the Old and New Testament. In 1774 was published "The origin of Printing, in two essays: 1. The subsidence of Dr. Middleton's dissertation on the origin of printing in England. 2. Mr. Meeran's account of the invention of the art at Haerlem, and its progress to Meutz; with occasional remarks, and an appendix." Of this work the original idea was Mr. Bowyer's; but it was completed by Mr. Nichols. A second edition of this work, which was well received both at home and abroad, was published, with very considerable improvements, in 1776. In 1777, he closed his literary career, with a new edition of Dr. Bentley's "Differtation on the Epistles of Phalaris," with additional notes and remarks by himself and others. On this occasion he was much indebted to the friendly assistance of Dr. Salter, late master of the charter-house, and Dr. Owen.

Mr. Bowyer had been always subject to a bilious colic, and for the last ten years of his life he was afflicted with the palsy and the stone: and yet he retained, to a great degree, a remarkable cheerfulness of disposition; and his faculties, though somewhat impaired, enabled him to derive great satisfaction from the conversation of his literary friends, to pursue a course of inconstant reading, which was his principal amusement, and to correct the learned works, especially the Greek books, which were printed at his press. Within a few weeks before his death he funk under his maladies and the progres of decay, and at length terminated a life of singular reputation and usefulness, on the 18th of November, 1777, in his 78th year. His numerous publications afford ample evidence of his talents and learning, and he was honoured with the friendship and patronage of many of the most distinguished ornaments of the age in which he lived. As a learned printer he had no rival for two or more half a century; and he was too distinguished by his moral qualities than by his mental abilities and literary attainments. Of his regard to religion, both in the principles and practice of it, his whole life afforded unquestionable evidence; his probity was inflexible; the promptitude with which he relieved every species of dis- tires marked the benevolence of his mind: and his modesty in endeavouring to conceal his benefactions reflects great hon- our on his memory. Although his literary avocations and natural temper induced him to seclude himself very much from the world, and from intercourse with any persons besides men of letters, he was reckoned to posses an excellent talent for discriminating the red characters of man-
BOX

on them with the fingers was effectually prevented. For
want of some contrivance of this kind, our sharpeners have
opportunities of playing divers tricks with the box, as
palming, topping, flabbing, &c. Hyde. Hist. Nerd. 2,

Box-room, a kind of cafe wherein the hearers are enclosed
for running Hum.

Box-money, at Hazard, is that which is paid the box-
keeper, or hum who furnishes the box and dice. Better
have the advantage over callers, as they have no box-
money to pay, which at long run would beggar the most
fortunate player. Hence some gamblers will never call,
for the expense of box-money.

Box of a plough, a name by which the farmers call that
cross-piece in the head of the plough, through which the
spindle of the two wheels passes, and to which are fastened
the two cross-flanges, serving, by their holes, to regulate
the height of the beam, the tow-chain below, the flake which
supports the bridge-chain above, and the galloways behind,
into which are fixed the wilds with the crooks of iron, for the
drawing of the whole plough along. This part of the plough
is placed between the beam and the flanks much below it,
and not far from the ground. See Plough.

Box of a rib-foree, two thin iron plates fixed to a handle;
in one of the iron-plates is an opening to receive a wedge,
by which it is fixed to the saw.

Box, strong, a coffe of iron, or of thick wood, secured
with iron plates, and a lock with several bolts, difficult
either to be opened or forced; chiefly used for putting
money in.

Box the compasses, in Sea-language, to repeat the opposite
points of the compasses alternately. Thus, N. S. N. by E.
S. by W. N. N.E. S.S.W. &c.

Box of the compasses, the square wooden box which con-
ains the mariner’s compass; in the construction of which,
no iron work is to be used.

Box of a watch, the case or cover.

Box of a wheel, the aperture wherein the axis turns.

Box-puceron, in Entomology, among old writers, the cocur
lefeirdum, an insect that infests the box, in common with
various other evergreens. See Hesperidum. The word
puceron, and ballard puceron, appears to have been formerly
applied indiscriminately to several distinct genera of insects
that infest plants, as those of the cynips, aphis, thrips, and
others.

Box-thorn, in Botany. See Lycium.

Box-tree, sand. See Hura.

Box-hauling, in Seaman’ship, a particular method of veering
a ship, when the swell of the sea renders tacking imprac-
ticable, or when there is not room to veer by the
common method of filling the head, and shivering the after-
falls. This operation is performed by putting the helm
hard a-lee, which brings the ship’s head to windward; the
after-falls, particularly the main-fall, mizen, and mizen
fly-fall, are to be hauled up; as soon as the falls begin
to shake, haul in the weather-head braces, and the lee-foree,
and fore-top bowlines; the ship’s head will then fall off,
which, together with the action of the water upon the
rudder, by the sternway the has acquired, will bring her
round until the wind is right aft; when her sternway will
have ceased, and then the helm is to be put hard a-weather:
in the mean time the after-falls are to be brated up, which
will greatly assist in bringing the ship round; the main-fall,
mizen, and mizen fly-fall are to be fet, the head-yards
braced up, as the ship comes to the wind, and the helm
shifted to its proper position.

Box-hill, in Geography, near Dorking, in Surrey, Eng-
land, received its name from the great number of box-trees
which ornament its shelving sides and summit. Many of
these are said to have been planted on the south side of it
by the celebrated earl of Arundel, in the reign of Charles I.
Since that period they have proved highly beneficial to the
proprietor, and to the public. “Formerly,” says Mr. Gilpin,
“the ships from the Levant brought such quantities of
this wood in ballast, that the trees on this hill could not
find a purchaser; and not having been cut in 6 years, they
were growing in many parts rankered. But the war having
diminished the influx of it from the Mediterranean, several
purchasers began to offer for this native wood; and in the
year 1795, for Harry Mildmay put it up to auction, and
sold it for the immense sum of twelve thousand pounds.”
This hill, and the neighbouring eminences, on which the
box-tree flourishes in such profusion and perfection, should
be considered as making a part of the natural history of
Britain. The extensive prospects commanded from this
place, combining with its singular and beautiful scenery,
frequently excite the attention and admiration of travellers.
In its immediate vicinity are several elegant villas, and the
river Mole, which runs under ground for some distance,
winds its flow waters beneath the precipitous sides of this
hill. Gilpin’s Observations on the Western Part of
ii. 1802.

BOXBERG, in Geography, a town of Germany, in the
circle of the Lower Rhine, and the Palantine; 34 miles E.
of Heidelberg.

BOXBOROUGH, a township of America, in Middle-
sex county, and state of Massachusetts, containing 412 inha-
bbitants; 30 miles N.W. from Boston.

BOXERS, a kind of athlete, who combat or contend for
victory with their fists. See Athlete.

Boxers are the same with those who, among the Romans,
were called pugiles. The ancient boxers contended with such
force and fury, that they frequently dafined out one an-
other’s teeth, broke their bones, and killed each other.
The strange disfigurement these boxers underwent were
such that frequently they could not be known, and rendered
them the objects of many raillery. In the Greek anth-
ology, there are four epigrams of the poet Lucilius, and one
of Lucian, wherein their disfigurements are pleasantly enough

Boxes, in a play-house, are little apartments behind and
aside of the pit. We say, the front boxes, the flage-
boxes, &c.

Boxes of the pump. See Pump.

BOXFORD, in Geography, a small township of Amer-
ica, in Essex county, Massachusettts, on the east side of the
Merimack river; 7 miles W. of Newbury port, and
containing 625 inhabitants.

BOXHORNUS, Mark Zuerius, in Biography, an
eminent philologgist, the son of James Zuerius, was born
at Berga-op-Zoom, in 1612, and assumed the name of his
maternal grandfather, Henry Boxhorn, a convert from
popery, and miniller of Breda. At Breda, where he was
educated, his proficency in literature was such, that at the
age of 17 years he published some Latin poems that
were well received, and at the age of 20 he was editor of
some learned works. In 1632, he became professor of
rhetoric in the university of Leyden. Declining to ac-
cept the invitation of queen Chrisitina to an honourable
office in Sweden, he succeeded Daniel Heinluis in the pro-
feßships of politics and history, both which departments
he occupied with great honour to himself and benefit to
his auditors. His literary career, however, was terminated
by death, in 1653. His works were numerous and curious.
He published, in addition to his juvenile labours as an editor,
notes upon Justin, Pliny's Epistles, and Tacitus, and a "Commentary upon the Life of Agricola," by the last-mentioned author. In a work written by him on the invention of printing, he endeavored to establish the claims of Haerlem in opposition to those of Muntz. He also wrote a Latin account of the siege of Brida. Among his political pieces are enumerated his defenses of the liberty of navigation claimed by the Dutch, a short account of the Dutch constitution, and a vindication of the rights of Charles II. to the English throne. He wrote "Critical and historical dissertations on the antiquities of Gaul and Scythia;" and "Sacred and profane history from the birth of Christ, to the year 1650," in one volume 4to.

His account of learned women never appeared. His letters, and his Latin and Greek poems, were printed after his death. Gen. Dict.

BOXING, the exercise of fighting with the fists, either naked, or with a rope or leaden ball grasped in them: in which sense, boxing coincides with the pugilatus of the Romans, and what, on our amphitheatres, is sometimes called trial of manhood. When the champions had στήθος, or balls, whether of lead or stone, it was properly denominated ἀγοραστικός. Potter, Arch. Grac. Lib. ii. cap. 21. Vol. i. The ancient boxing differed from the pugna cælestium, in which the combatants had leathern thongs on their hands, and balls, to offend their antagonists; though this distinction is frequently overlooked, and fighting with the cælestis ranked as part of the butcher's pugilis. We may distinguish three species of boxing; viz., where both the head and hands were naked; where the hands were armed and the head naked; and where the head was covered with a kind of cap called amphotides, and the hands also furnished with the cælestis, which fee.

Boxing is an ancient exercise, having been in use in the heroic times, before the invention of iron or weapons. Accordingly, we find in the Latin and Greek poets, several descriptions of this rudolf, and most dangerous of the gymnastic combats. In Homer, we have that of Epeus and Euryalos; in Theocritus, that of Pollux and Amycus; in Apollonius Rhodius, an account of the fame battle; in Virgil, that of Dares and Entellus; and in Statius, and Valerius Flaccus, are relations of several other combatants. Dioecor. Idyl. 22. Argonautica. l 2. Alexiad. l 1. Theocritus, l 6. Argonaut. l 4.

Those who prepared themselves for it, used all the means that could be contrived to render themselves fat and flabby, that they might be better able to endure blows; whence corpulent men or women were usually called pugiles, according to Terence: "Sicqua eft habitaro paulo, pugiam esse aiant." M. Burette has given the history of the ancient pugilate, or boxing, with great exactness. Mem. Acad. Inscript. tom. iv. p. 573, &c.

The athlete sometimes came immediately to blows, and began with charging in the most furious manner. Sometimes, whole hours passed in harafling and fatiguing each other, by a continual extension of their arms, rendering their mutual blows ineffectual and embarrassing by this mode of defence to keep off their adversaries. But when they fought with the utmost fury, they aimed chiefly at the head and face, which parts they were most anxious to defend, by either avoiding or catching the blows that were aimed at them. When a combatant threw himself with all his energy upon another, they had a surpising address in avoiding the attack, by a nimble turn of the body, which caused the incalculable adversary to fall, and deprived him of the victory. Notwithstanding ths ferocity with which the combatants contended, they were sometimes so exhausted by the duration of the combat, as to be under the necessity of making a truce, upon which the battle was suspended for some minutes, which were employed in recovering from their fatigue, and rubbing off the sweat with which they were bathed. They then renewed the fight, till one of them, by letting fall his arms through weakness, or by wounding away, indicated that he could no longer support the pain and fatigue, and defined quarter, which was condemning himself vanquished.

This art, adapted, as one might conceive, only to a period of barbarism, has in modern times been most appropriately by the English; and about half a century ago, it formed a part of the exhibitions at places of public amusement. It was encouraged by the nobility, and even tolerated by the magistrates. Before the establishment of Broughton's amphitheatre, a booth was erected at Tottenham court in London, the proprietor of which, Mr. Geo. Taylor, invited the professors of the art of pugilism to display their skill, and the public to attend their performances. The entrance money, amounting sometimes to 100 or 150l., was shared among the performers, in such proportion, that the victorious champion had two thirds of it, and the vanquished one third; and in some cases, both had an equal share. When complaints were made by the nobility and gentility of the inconvenience attending the exhibitions in Taylor's booth, they prevailed on Mr. Broughton, at that time of sitting fame in the clats of pugilists, to build a place better adapted for the purpose. A subscription was raised, and in 1742, a building was erected behind Oxford-road, and denominated "Broughton's new Amphitheatre." In this building, there were, besides a stage for the combatants, seats corresponding to the boxes, pit, and galleries in other theatres. In process of time, the public taste was refined and improved, so that exhibitions of this kind ceased to be popular, and sunk into neglect. At a later period, the death of one of the combatants served to render them still more disreputable, and unworthy of any patronage and encouragement. Instances, however, are often occurring of the renewal of these contests; but they are now so disgraceful in the public estimation, and so much restrained and prohibited, by the interference of the magistrates, that they are attended by few persons above the lowest classes of the community, whenever, by cluding notice, they happen to take place.

BOXING, an operation in sailing, somewhat similar to box-hauling. It is performed by laying the headails a-back, to receive the greatest force of the wind in a line perpendicular to their surface, in order to bring the ship's head back into the line of her course, after she had inclined to windward of it, by neglect of the person at the helm, or otherwise. But should a ship be taken flat a-back, or through neglect in not timely boxing her off, it should cause the wind to be broad upon the other bow, and it would be the wish of the officer to have her upon the same tack as before, then heel the helm over to that side, which just before was the weather; sail up the mizen, and mizen stay-fall; raise the main-tack and sheet, and square the after-yards. In this situation of the helm and sails, the will pay round off upon her keel; and when she has brought the wind aft, and gathered head-way, shift the helm. The wind round upon the other quarter, haul aft the mizen and mizen stay-fall sheets, brace up the after-yards, get on board the main tack, and haul all the sheet. As she comes to, right the helm, and trim sharp as before.

BOXING, in Ship-building, the projection left on the haft-pieces, in the wake of the haft-holes, where the planks do not run through.
Boxing is also used for the tapping of a tree, to make it yield its juice.

The boxing of maple is performed by making a hole with an ax or chisel into the side of the tree, about a foot from the ground; out of it flows a liquor from which sugar is made. Phil. Trans. No. 364. See Maple, Bending, Birch, and Saw.

BOXMEER, in Geography, a town of Germany, situated on the river the Maas, on the frontiers of the dukedom of Guelders: 8 leagues E. of Deers-duc, and 4 S. W. of Cleve.

BOXTEHUDE, a town of Germany, in the circle of Lower Saxony, and duchy of Brunswick, on the river Elbe or Oa, navigable for boats to the Elbe. It is subject to the Danes; 14 miles W. of Hamburg. N. lat. 51° 46'. E. long. 9° 35'.

BOXTEL, a town of Brabant, on the Dongael, and furnished with sluices; 5 miles S. of Deers-duc. N. lat. 51° 38'. E. long. 5° 17'.

BOY-BISHOP, in Antiquity. See Bishop.

Boy, in Geography, a town in Spain in the province of Catalonia; 6 miles S. W. of Barcelona.

BOYAR, or BOB, a term used for a Russian lord, or grandee. According to Becman, boyars are what, in other countries, are called the upper nobility: he adds, that the czar of Muscovy, in his diploma, names boyars before waywodes.

It has not yet been satisfactorily determined, what the ancient boyars were; whence they derived their descent; and how they maintained their dignity; and whether this dignity was conferred by the sovereign; whether it attached to birth, or whether it sprang from the rank and importance which they brought with them into the country. If we consider them as the privy councillors of the sovereign, then their precedence arises merely from their office, or they must have possessed it by their birth. But it has been likewise affirmed, that the boyars, now in general the most considerable of the Russian nobility, came from abroad, were sprung from foreign ancestors, and brought their nobility into the empire with them. However, future researches are necessary for obtaining satisfaction, with regard to these questions. During the Tartarian and Mongolian sovereignty, no trace of them is found; and even during the reign of czar Ivan Vaclilevitch I. no such title appears, though it seems to have arisen at that time, or very soon after it: for, under the czar Ivan Vaclilevitch I., the boyars had already endeavoured to collect a considerable force; but were much overawed by that monarch. In the succeeding period of diffraction, occasioned by the aspiring views of the patriarch and his superior clergy, the boyars seized the favourable opportunity of extending their power. It is also probable, that persons of respectable birth from other countries, who occupied high stations in Russia, and on this account, as well as from the privileges brought with them, enjoyed great authority; and hence all boyars, i.e. the superior officers, might take occasion to assume a consequence, which they afterwards, as opportunities occurred, endeavoured to enlarge. Although the boyars are always mentioned in history as persons of distinction, yet the same history also informs us, that they received their dignity from the sovereign alone, that it was entirely personal, and that it was not transmitted by inheritance from father to son. Accordingly, it depended on the will of the monarch, whether he would have many or few boyars: and, therefore, they can never be considered as native privileged deputies of the people, nor as perons who could restrain the power of the sovereign, or refuse him in the undue exertions of it. In some cases, however, they usurped an authority to which they had no pretensions, and then brought great discontents upon the empire. At the drawing up of the ulorrhonic, or old law of the land, they, as well as the clergy, were consulted; but probably only as privy councillors, under which description they were generally noticed in the ukases. However, in order to prevent any further usurpation and mistake, an order was issued in 1701 by Peter I., that they should no longer be mentioned at all in the ukases. From the authority they possessed, and with a natural desire of extending it, it may be reasonably presumed, that they took a lead in the elections of the sovereign princes, if they were not the prime managers of them; they without doubt thought themselves the first preferments after the sovereign and the privileged representatives of the people, especially of all the rest of the nobility; and this seems to be the reason why the latter are not named among the electors. The boyars, in early times, when wars were frequent, besides having a share in the election, were commanders of the army, as well as the ministers and counsellors of the prince. The directing senate in the Russian government, instituted by the emperor Peter I., about the year 1711, and raised to the rank of the supreme college of the empire, consisted of 9 boyars; and seems to have been created in the place of the old boyars. The boyars before his time sat at the helm of state in the capital, and officiated as viceroys in the provinces, deciding, commanding, and acting, according to their own humours. But he abrogated the court of boyars, called "boyarkoi dvor," which had hitherto constituted the ministrily of the czar or tsar, and without whose consent nothing could be enacted, inasmuch that all the decrees of government began with these words, "By command of the tsar, and with the approbation of the boyars;" and substituted the senate in its room. Writers are not agreed as to the precise meaning of the word "boyar" or "boyarin." In the dictionaries it is made to denote a lord, a person of quality, or a nobleman. Sometimes it peculiarly denotes a soldier. In the Russian language, "boyarin" signifies a gentleman, a person of distinction, or a member of a family: and the Russian peasant usually styles his nobleman, even though he has neither rank nor citze, boyarin, or contracledly, barn, and his spouse, boyarina. Hence the last-service, performed by the boyars to their lord, is called "boyarichtchina." Tookese's view of the Russian empire, vol. ii.

BOYAU, in Fortification, a branch of the trenches; being a ditch covered with a parapet, which forms a communication between two trenches; it runs parallel to the defensive works of the body of the place, and serves as a line of contravallation, to hinder the falls of the besieged, and also to secure the miners. When it is a line or cut, that runs from the trenches to cover some spot of ground, it is drawn so that it may not be enfiladed, that is, that the shot from the town may not nose along it.

BOYCE, Dr. William, in Biography, organist and composer to his majesty, was a musician to whom our choral service is greatly indebted, not only for his own excellent choral works, but for the well selected, correct, and splendid edition of our cathedral music, which he published in three volumes large folio, upon the plan, and at the recommendation of his master and predecessor, Dr. Greene, to whom he served an apprenticeship.

This eminent professor (Boyce) was born at Joyner's hall, in the city, of which his father was housekeeper, and with whom he resided during his youth. When he became a family man, his residence was at Chancery-lane, to the end of the reign.
BOY

reign of his late majesty George II., about which time he returned to Kennington Gore, where he ended his days in 1779. He was educated at St. Paul’s school, and began his musical career as a chorister in that cathedral. When he left his treble voice, he was bound apprentice to Dr. Greene, then organist of the metropolitan church. The matter and scholar seemed worthy of each other, living in the utmost cordiality and friendship; the matter loving the pupil, and the pupil honouring and respecting the matter, to the end of their lives.

In 1734, he was a candidate for the place of organist of St. Michael’s church, Cornhill, with Frood, Young, James Worgan, and Kelway. But though he was unsuccessful in this application, Kelway having been elected, yet he was appointed, the same year, to the place of organist of Oxford chapel; and in 1736, upon the death of Weldon, when Kelway, being elected organist of St. Martin’s in the Fields, resigned his place at St. Michael’s Cornhill, Boyce was not only elected organist of that church, but organist and composer in the chapel royal.

The same year he set “David’s Lamentations over Saul and Jonathan,” which was performed at the Apollo Society. About the year 1743, he produced his oration of “Solomon,” which was not only long and justly admired, as a pleasing and elegant composition, but still affords great delight to the friends of English music, whenever it is performed. His next publication was “Twelve Sonatas or Trios for two Violins and a Basso,” which were longer and more generally purchased, performed, and admired, than any productions of the kind in this kingdom, except those of Corelli. They were not only in constant use, as chamber music, in private concerts, for which they were originally designed, but in our theatres, as aëst tunes; and public gardens, as favourite pieces, during many years.

In 1749, he set the ode written by the Rev. Mr. Mason, for the installation of the late duke of Newcastle, as chancellor of the university of Cambridge, at which time he was honoured with the degree of doctor in music by that university. Soon after this event he set the “Chaplet,” a musical drama, written by the late Mr. Mendez, for Drury-lane theatre, which had a very favourable reception, and continued many years in use among the street pieces for that theatre. Not long after the first performance of this drama, his friend Mr. Beard brought on the same stage the following ode, written by Dryden, and originally set by Dr. Boyce for Hickford’s room, or the Caille concert, where it was first performed, still life. This piece, though less successful than the “Chaplet,” by the animated exertions of Mr. Beard, was many times exhibited before it was wholly laid aside. These compositions, with occasional fuge songs for Vauxhall and Ranelagh, diffused the fame of Dr. Boyce throughout the kingdom, as a dramatic and miscellaneous composer, while his choral compositions for the king’s chapel, for the feast of the fons of the clergy at St. Paul’s, and for the triennial meetings at the three cathedrals of Worcester, Hereford, and Gloucester, at the performances in all which places he constantly professed till the time of his death, established his reputation as an ecclesiastical composer and able master of harmony.

Dr. Boyce, with all due reverence for the abilities of Handel, was one of the few of our church composers who neither pillaged nor fervishly imitated him. There is an original and shining merit in his productions, founded as much on the study of our own old masters, as on the best models of other countries, that gives to all his works a peculiar stamp and character of his own, for strength, clearness, and facility, without any mixture of fyles, or extraneous and heterogeneous ornaments.

On the decease of Dr. Greene, in 1757, he was appointed master of the king’s band, and, in 1758, on the death of Travers, organist of the chapel royal; of which he had succeeded Weldon, in 1736, as composer: so that he enjoyed three honourable appointments at once, which used to be supplied by three several professors. The grant put an end to the existence of this worthy man, and excellent composer, at the age of 69. He was succeeded in the chapel royal by Mr. (afterwards Dr.) Dupuis, and, as a master of his majesty’s band, by Mr. Stanley.

BOYD, MARC ALEXANDER, a descendant of the ancient family of this name in Scotland, was born in Galway, in 1762, and placed for education at Glasgow, under the care of his uncle, the archbishop. But being of an un governable and turbulent temper, he quarrelled with his preceptors, destroyed his books, and renounced the pursuits of literature. He then fought to pursu his interest at court, and when all the endeavours of his friends to serve him in that situation proved ineffectual, they lost him in a military capacity to the wars of the United Provinces, with a view of restraining the violence of his temper. From hence he soon removed to Paris, and left his whole stock of money by gaming. The diffigs that ensued seems to have brought him to reflection, and he determined to apply to literary studies. Accordingly he repaired to Bourges, and attended the lectures of the famous civilian Cujaeus. To this eminent professor he recommended himself by peculiar attention and respect, and by adopting his taste in Latin poetry; and thus he acquired a fondness for the antiquated style of Ennius, and of the other Latin poets. From Bourges he was driven by the plague to Lyons, and thence to Italy. On the renewal of the civil wars in France, he removed thither, and bore arms with reputation in the royal cause; and after a variety of adventures he returned to his native country, where he died in 1601.

The talents and performances of Boyd have been much over-rated; and he has been represented as another “admirable Crichton.” But though he possessed a vigorous and versatile genius, he never acquired, probably on account of his indolence and diffidence, any kind of dis tinguished excellence. Besides several manuscripts which he left behind him, on political, critical, and poetical topics, his “Epitola Heroidum,” and his “Hymni,” were published in the “Delicia Poetarum Scotorum”; printed at Amsterdam, in 2 vols. 4to., 1678. His “Epitola” were referred to James VI. of Scotland, or James I. of England, whom he represents as superior to Pallas in wisdom, and Mars in arms. As to the character of his poetry, it confests in an imitation of the wit of manner of Ovid; and his hymns, which have no tincture of devotion, are poems to which he has annexed the title of some flower or herb, the qualities of which he has described. Bishop Tanner informs us, that, besides his epistles and hymns, he published two books of “Epigrams.” 8vo, Brit.

BOYDELL, JOHN, a liberal patron of the arts, and an honour to his country, was born at Dorrington, in Shropshire, on the 17th of January 1719. His father, who was a land surveyor, intended his son for his own profession; and, had it not been for one of those little accidents which often determine the path that men are destined to walk, he had waited that time, which has been so honourable to himself, and beneficial to this nation, in measuring and valuing the acres of Shropshire squires, and the mansions of Welch baronets. Fortunately for himself and the arts, a trifling incident gave a different direction to his mind, and led him to aim at the delineation of scenes more picturesque than the ground

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plans of houses, boundaries of fields, or windings of obscure roads. While he was yet very young, chance threw in his way Baddeley’s Views of different Country Seats; and among them was one of Hawarden castle, Flintshire; which being the seat of Sir John Glynn, by whom he was then employed in his professional capacity, and in the parish of which his father was an inhabitant, naturally attracted his attention. An exact delineation of a building that he had often contemplated, afforded him pleasure, and excited an inclination easier to be conceived than deferved. Considering it as an engraving, and reflecting that from the same copper might be taken an almost indefinite number of impressions, he determined to quit the pen, and take up the graver, as an instrument which would enable him to delineate whatever work he could produce, in so much wider a circle. This resolution was no sooner made, than it was put in execution; for, with that spirit and perseverance which he manifested in every succeeding scene of life, he, at twenty-one years of age, walked up to the metropolis, and bound himself apprentice for seven years to Mr. Toms, the engraver of the print which had so forcibly attracted his attention. These, and accidents equally trilling, sometimes attract men of strong minds into the path that leads direct to fame, and have been generally considered as proving that they were born with some peculiar genius for some peculiar study; though, after all, genius is perhaps little more than what a great moralist has defined it:—“a mind with strong powers accidentally directed to some particular object.” Sir J. Reynolds had the first fondness for his art excited by the perusal of Richard’s Treatise on Painting; and, as we have before observed, Mr. Boydell was induced to learn the art of engraving, by a coarse print of a coarse artist, representing a mis-shapen Gothic castle.

His conduct, during his apprenticeship, was eminently affinuous. Eager to attain all possible knowledge of an art on which his mind was bent, and of every thing that could be useful to him; and impelled by an industry that seemed inherent in his nature, he, whenever he could, attended the academy in St. Martin’s Lane to perfect himself in drawing; his leisure hours in the evening were devoted to the study of perspective, and to the learning of French without the aid of a master. After very steadily pursuing his business for six years, and finding himself a better artist than his teacher, he bought from Mr. Toms the last year of his apprentice ship, and became his own master; and the first use that he made of his freedom was to return into his own country, where he married a very deserving young person of a most respectable family, to whom he had an early attachment, and with whom he lived many years in great felicity.

In the year 1745, or 1746, he published six small landscapes, designed and engraved by himself. This publication, from his having, in most of the views, chosen a situation in which a bridge formed part of the scenery, was entitled “The Bridge-Book,” and sold for a shilling. Small as this sum was, he sometimes spoke with apparent pleasure of a silver snuff-box in Duke’s-court, St. Martin’s-lane, having sold so many, that when he settled his annual account, he thought it would be civil to take a silver pinter mug in part of payment, and this mug he retained until his dying day. He afterwards designed and engraved many other views, generally of places in and about London, and published the greater part of them at the low price of one shilling each. But, even at this early period, he was so much alive to fame, that after having passed several months in copying an historical picture of Coriolanus by Sebastian Conca, he so much disliked his own engraving, that he cut the plate to pieces. Befide these, he engraved many prints from Brockling, Berlin, Salvator Rosa, &c. The manner in which many of them are executed is highly respectable; and, being done at a time when the artist had much other business to attend to, displays an industry rarely to be paralleled, and proves, that had he devoted all his time to engraving, he would have ranked high in the profession. His facility of execution, and unconquerable perseverance, having thus enabled him to complete 152 prints, in 1750, he collected the whole in one port-folio, and published it at five guineas. He modestly allowed, that he himself had not at that time arrived at any eminence in the art of engraving; and that those prints are now chiefly valuable from a comparison of them with the improved taste of the art within the last 50 years. In fact, there were at that time no eminent engravers in England; and Mr. Boydell saw the necessity of forcing the art by stimulating men of genius with suitable rewards. With the profits of the folio volume of prints above mentioned, he was enabled to pay very liberally the bell artists of his time, and thus presented the world with English engravings from the works of the greatest masters. The encouragement that he experienced from the public was equal to the spirit and patriotism of his undertaking, and soon laid the foundation of an ample fortune. He used to observe, that he believed the book we have alluded to was the first that ever made a lord mayor of London; and that when the final stages of the work was compared with what had followed, it would impress all young men with the truth of what he had often held out to them, that industry, patience, and perseverance, if united to moderate talents, are certain to mount all difficulties.” Mr. Boydell, though he never himself made any great progress as an engraver, was certainly the greatest encourager of the art that this country ever knew. English engravings, which were before considered as extremely inferior to those of foreign nations, began from that time to be highly prized; and the exportation of them soon became a valuable article of commerce. On the 5th of August, 1782, Mr. Boydell was chosen alderman of London, for the ward of Cheap, in the room of alderman Crichton, deceased.

Having been so successful in promoting the art of engraving in this country, he resolved to direct his next efforts to the establishing of an English school of historical painting; and justly conceiving that no subject could be more appropriate for such a national attempt, than England’s inspired poet, and great painter of nature, Shakspeare, he projected, and just lived to see completed, a most splendid edition of the works of that author, illustrated by engravings from paintings of the first artists that the country could furnish, and of which the expense was prodigious. These paintings afterwards formed what was termed “The Shakspeare Gallery,” in Pall Mall; and we believe there are few individuals, possessed of the least taste, or even curiosity, who have not inspected and been delighted by them.

In the year 1790 Mr. Boydell was chosen lord mayor of London; an office, of which he discharged the duties and the honours with a diligence, uprightness, and liberality, that may be equalled, but will rarely be exceeded.

After having expended, in his favourite plan of advancing the fine arts in England, no less a sum than 350,000l. this worthy and venerable character was incessitated, by the floppage of his foreign trade during a dozen years of war, to apply to parliament, in the beginning of 1804, for permission to dispose of the Shakspeare gallery, and his other collections of pictures and prints, by way of lottery. His letter to Sir John William Anderson, bart., on the occasion of his introducing a petition for that purpose to the house of commons, is preserved in most of the respectable periodi-
infectious fever was making great ravages, and, in 1742, to Paris, on a similar occasion. His successes at these places occasioned him to be sent for to Beauvais, in 1759, where by his judicious management he prevented the spreading of an infectious fever, infesting that country. For these services he was honoured by the king with letters of nobility, and invested with the order of St. Michael. He died Jan. 1768. His works are "Methode indiquée contre la maladie epidémique qui vient de regner a Beauvais," Paris, 1759, 4to. It consists of only ten pages. "Methode a suivre dans le traitement des différentes maladies epidémiques qui regnent le plus ordinairement dans la générale de Paris," 1761, 12mo. He wrote, in 1745, a "Memoire" on the disease infecting the cattle at that time. It was sent to the Royal Society in London, and procured him a place in the list of their foreign members. He also gave a new edition of the Codex medicamantarius," feu "Pharmacopoeia Parisiensis," 1750, a very useful and well digested work. Eloy, Dr. Hill.

Boyer's Day, in Geography, lies at the N.W. end of the island of St. Kitts, in the West Indies.

Boyer, in Navigation, a kind of Flemish sloop, or small vessel of burden, having a boltspit, a cleft at each end, and a tall mast; chiefly fit for the navigation of rivers, and, in many of its parts, resembling a smack. The boyer has a double bottom, and a forked mast, that it may run better with the bowing-line, without driving.

BOYERA, in Geography, a village of Africa, in the kingdom of Ameta, on the Gold coast, situate between Bomtry and Tekorari, and wholly inhabited by fishermen and labourers, who carry on a considerable trade with their neighbours by exchanging the fruits of the earth and fish for the produce of other countries. This village, and an adjoining one, called "Pandos," of the same description, are known at sea by a large pointed rock that lies before the coast.

BOYES, an order of American priests or magicians, used by the savages for calling up their gods, either to be re-engaged on those who have done them any injury, or to be cured of some disease, wherewith they are inflected, or to drive out some devil. They are also consulted with regard to the event of their wars. Each boyo has his peculiar duty; who is invoked by certain forms of words, tending in a quantic tone, accompanied with the fumes of tobacco.

BOYEPECANGA, in Zoology, the name of a very large serpent, distinguished by this name on account of certain prominences on its back. It is a very large and remarkably thick serpent, and of very fatal poison. Ray.

BOYE, RICHARD, in Biography, an accomplished statesman, generally liked the "Great Earl of Cork," was the descendant of an eminent and honourable family in Herefordshire, and the second son of Roger Boyle, a younger brother, who settled at Canterbury, where he was born in 1565. Having pursued his studies for some time at Benset college in the university of Cambridge, he removed to the Middle Temple with a view to the profession of the law; but he soon changed his determination, and entered into the service of Sir Richard Manwood, chief baron of the exchequer. This situation presenting him no prospect of speedy advancement, he went to Dublin in 1585; and, though his whole wealth amounted only to 27l. 3s. he had good recommendations, which, together with his own talents, introduced him into connection with the principal persons employed in the government, to whom he rendered himself eminently useful. The business in which he was engaged afforded opportunities of acquiring a comprehensive and accurate knowledge of the kingdom, and of the state of public affairs, which he did not neglect duly to improve. His marriage also, in 1588, with
with a heavy polluting $500, per annum of landed property, for the purpose of accelerating his advancement. By several advantageous purchases, at a time when land was of precarious tenure, and consequently cheap, he laid the foundation of his future ample estate; and the office of clerk of the council, under Sir George Carew, in the province of Munster, to which he was appointed by Queen Elizabeth, served to give him additional importance. His constant attendance on Sir George in all his expeditions against the Irish rebels, offered him various opportunities of singular service to the state; and of justifying the confidence that was reposed in him. Accordingly, after the battle of Kinsale, A.D. 1601, in which the Irish and their Spanish auxiliaries were totally routed, he was dispatched by his patron, the president of Munster, to communicate the news of the victory to the queen; and he executed this commission with such dispatch, and so much to the satisfaction of Sir George, that he was employed in another embassy to England, in order to obtain the queen’s permission for the president’s return to his own country.

In consequence of the advice of his patron, Mr. Boyle purchased, at a low rate, Sir Walter Raleigh’s estate in Ireland, consisting of 12,000 acres, in the counties of Cork and Waterford, which he consolidated and improved as much as to enhance their value. In 1603 he married the daughter of Sir Geoffrey Fenton, and in the same year received the honour of knighthood from his friend and patron Sir G. Carew, then lord deputy of Ireland. The next step in his progressive advancement to the high honour and ample fortune, which he afterwards acquired, was the office of privy-councillor for the province of Munster, to which he was appointed by King James in 1665; and as he had considerable estates in this province, he was enabled, by this promotion, to pay due attention, at the same time, to his own interest and that of the public. With a view to both these objects, he took care to let his estates to English protestants only, and to erect several towns and boroughs, as well as some castles, for their security. His conduct was so much approved, that in 1613 he was promoted to the dignity of privy-councillor for the kingdom of Ireland, and in 1616 to the rank of peerage, by the title of baron of Youghall, in the county of Cork, and in 1620 to that of viscount Dungarvan and earl of Cork. By his active and unremitting exertions for promoting the security and prosperity of the English and protestant interest in Ireland, and improving the arts and manufactures of the country, he conciliated the favour of King Charles I., and obtained for his sons, even in their infancy, several titles of distinction. As they grew up he settled them in separate estates, and formed connections for his daughters with the best families in the country. At the castle of Lifmore, the centre of very ample domains, which on this account he chose for his own residence, he lived in a style of princely splendour. In 1629 he was appointed one of the lords justices of Ireland; an office of high dignity and influence, which he held for many years; and in 1631 he was appointed lord treasurer of the kingdom, accompanied with the unprecedented circumstance of hereditary succession in his family. But it has not continued in the sole line of the house of Boyle; for, on the death of the last earl of Burlington, in 1753, the office was conferred by his late majesty, on the then marquis of Hertingston, who was not of the Boyle family; and it is now enjoyed by his son, the present duke of Devonshire, who descends from a female branch. In the exercise of the powers with which he was invested, he affidavily executed the rigorous laws of queen Elizabeth against the papists; and for the more effectual suppression of the popish religion and worship, he shut up several mas-houses both in Dublin and in the country.

He was also active in providing a regular and competent subsistence for the army; and in transplanting a multitude of barbarous Irish "feets," or "clans," out of the fertile and well cultivated province of Leinster, into the wilds and deserts of the county of Kerry. He also took great pains in endeavouring to procure a mint to be settled in that county. Upon the arrival of lord Wentworth, who was appointed lord-deputy of Ireland in 1633, the high powers possessed and exercised by the earl of Cork excited jealousy and opposition; and the cold civilities which at first prevailed between them terminated in open and avowed hostility. This hostility continued for several years; every man striving to the mortification and dishonour of both parties. However, when the earl of Strafford was impeached before the house of lords in 1641, the earl of Cork, who was then in England, had an opportunity of retaliating by giving evidence against him.

Soon after this event, and just before the commencement of the great rebellion in that country, he returned thither; and affuming a military capacity, exerted himself with all the ardour of youth, and collected an army among his tenants and dependants, at his own expense, which he committed to the command of his four sons, distributing them through various parts of his extensive dominions, so as to secure them, in a great degree, against the depredations of the superior forces of the Irish, and to gain many advantages over them. In this contest he lost one of his sons, who fell at the battle of Liscarrag in 1642; nor did the earl himself, whose active exertions overpowered a constitution already impaired by age, long survive. In September 1643 he closed his honourable career of private advancement and public service, and was interred in his own chapel, in the parish church of Youghall, near the noble monument he had erected for his family. How well he deserved the title of the "Great earl of Cork," under which appellation he is always mentioned, even among the native Irish, the historians of the interesting period in which he lived have amply testified. "The noble earl of Cork, lord high-treasurer," says Sir Richard Cox, an intelligent and impartial writer, in his introduction to the 2d volume of his History of Ireland, "was one of the most extraordinary persons, either that or any other age hath produced, with respect to the great and just acquisitions of estate that he made, and the public works that he began and finished, for the advancement of the English interest and the protestant religion in Ireland, as churches, alms-houses, free-schools, bridges, canals, and towns, viz. Lifmore, Tallow, Cloghinakelly, Inskine, Collatown and Bandon, (which last place cost him fourteen thousand pounds), infirmum that when Cromwell and his prodigious improvements which he little expected to find in Ireland, he declared "that if there had been an earl of Cork in every province, it would have been impossible for the Irish to have raised a rebellion." And whilst he was carrying on these solid works, he lived in his family at a rate of plenty that exceeded those who confounded great estates in the lavish ways of ill-ordered excess. His motto, "God’s providence is my inheritance," shews from whence he derived all his blessings, the greatness of which was the numerous and noble posterity he had to leave his estate unto." By his second lady he had fifteen children, of whom many survived him, and rose to great eminence. [Boyd. Brit.]

**Boyle, Roger, earl of Orrery, fifth son of the great earl of Cork,** was born in 1621, and created baron Brockhill, of the kingdom of Ireland, at the age of seven years. At Dublin, where he received his education, he was distinguished by his genius and application; and, in 1636, he sat out on the tour of France and Italy. Upon his return from his travels, he found the country in great confusion; and
and having married the daughter of the earl of Suffolk, they landed in Ireland on the day when the rebellion in that kingdom broke out, viz. October 23, 1641. On this occasion the post which his father assigned him was the defence of the castle of Lismore, in which he behaved with equal prudence and courage. After the cessation of the contest between the prelates and papish parties in Ireland, he visited England, and paid his respects to King Charles I. at Oxford; to whom he communicated information concerning the true state of Ireland; and he returned with a commission to Lord Inchiquin, and instructions to act against the rebels, in which service he acquitted himself to the utmost of his power; and he continued his service, as the only means of promoting the Protestant interest, under the commissioners named by parliament, till the king's death. When this event took place, he left his country and retired to Marlon in Somersetshire, where he remained for some time in close retirement; but here he formed a scheme of crossing the sea, under a pretence of visiting the Spue, on account of his health, and of applying to Charles II. for a commission to raise forces in Ireland, for the restoration of his majesty and the recovery of his own estates. The committee of state, however, were apprized of his design; and Cromwell, wishing to avail himself of his talents and influence, proposed an interview with him. In this interview he was informed, that the committee of state knew the object of his leaving the kingdom, and that they had determined to make an example of him, if he himself had not interfered and diverted them from their purpose. Lord Broghill, finding that it was vain to dispense, and that Cromwell had copies of several letters which his lordship had sent to theob in whom he had confided, and which he put into his hands, returned Cromwell thanks for his protection against the committee, and solicited instructions how he was to act in this peculiarly delicate and embarrassed circumstances. Cromwell assured him of the high opinion he entertained of his merit and character; and, as he had been appointed lord lieutenant of Ireland, he informed him, that he had obtained leave of the committee to offer his lordship the command of a general officer, if he would serve in the war for reducing the country; pledging himself at the same time, that no oaths or engagements would be imposed upon him, and that he should not be obliged to draw his sword against any but the Irish rebels. Whilst his lordship was hesitating about accepting an offer so generous and unexpected, Cromwell urged the necessity of an immediate resolution; as the committee, who were then sitting, determined, if he refused the offer, to send him to the Tower. Lord Broghill, apprehending danger both to his liberty and life, and overpowered by the apparent frankness and generos ity of Cromwell's conduct, gave him his word and honour, that he would faithfully serve him against the Irish rebels. Accordingly he directed him to repair immediately to Bristol, where he would find a supply of forces, and a sufficient number of ships to transport him into Ireland. Having accepted Cromwell's commission, he served under him with great military skill and vigour in his Irish campaigns. After Cromwell's assumption of the protectorate, lord Broghill became his constant companion and confidential counsellor; and it has been said, that he proposed a matrimonial connection between the exiled king, Charles II. whom he had founded upon it, and whom he found not altogether averse from the project, and France, the daughter of the protector, who was not inclined to adopt it. It has also been said, that he advised Cromwell to restore the old constitution, and to assume the title of king. The measures he recommended, whilst he enjoyed the confidence of the protector, were mild and lenient; and by these he equally served both Cromwell and the nation. In parliament he opposed and defeated the detestable measure, proposed by some party-men, which was that of a law for deeming the royal party. In 1656, lord Broghill accepted, on conditions previously stipulated, a commission to govern Scotland for one year with absolute authority; and in the execution of it he gave great satisfaction both to the Scots and to Cromwell. It redounds much to the credit of his lordship's judgment, that, notwithstanding the number and influence of his enemies, and their frequent access to the protector, he retained his confidence to the last, and performed some of the most distinguished public acts under his government, being a general officer in the army in Ireland, a member of both parliaments, a lord of Oliver's creation, and one of his confidential council. After the death of Cromwell he adhered faithfully to his son Richard, as long as he had any prospect of maintaining his power; but as soon as he had dissolved the parliament, he thought the government subverted, and himself absolved from all obligations of attachment to the Cromwell family, considered as that of a prince. He, therefore, determined, for his own security, to withdraw to Ireland, and to assume his command in the province of Munster. Availing himself of the advantages which his situation afforded him, he was eminently useful in restoring and re-establishing the king's authority in Ireland; and soon after his arrival, he came over to England, and further ingratiated himself with his majesty, by giving him full information with regard to the state of parties in Ireland. For the services that were rendered by him on this occasion, he was advanced, in 1662, to the dignity of earl of Orrery, and appointed one of the lords justices for Ireland. Having drawn up the act of settlement for that kingdom, and thus secured the Protestant interest, he withdrew in 1665, upon the appointment of the duke of Ormond to the lieutenantcy, to his local jurisdiction in the province of Munster. In this situation of subordinate authority, and comparative retirement, and though he was occasionally afflicated with paroxysms of the gout, he took an active part, when opportunity offered, in public affairs. He is said to have had the feals offered him, when he made a visit to England in 1665, but he declined accepting them. On his return to Munster, he found ample employment for his talents during the progress of the Dutch and French war. Besides other services of an important nature which he performed, he put the town and harbour of Kinfaule into such a state of defence, as to relieve the people amidst their alarms and apprehensions, and to render abortive the scheme for seizing it projected by the admiral of the French fleet. To him it was owing, that this port became afterwards a commodious refuge in time of war, both for our East and West India fleets. Notwithstanding all his labours and services for the safety of the kingdom, an unhappy dispute arose in 1667, between him and the duke of Ormond; so that he was deprived of his preludential power in Munster, and a charge of high treason was preferred against him in parliament, but it produced no effect. He still retained the king's esteem and confidence; though he was incapable of rendering him any essential service. Accordingly he determined to spend his latter years in Ireland, and to devote himself to literary pursuits, to the improvement of his estates, to the encouragement of manufactures, and to the support of the Protestant interest. He closed his life, much respected by his domestics and tenants, and generally esteemed, October 16, 1679. As a statesman and soldier the earl of Orrery appeared with singular advantage; but though he was ambitious of obtaining the reputation of a writer, and published a great number of works, in prose and verse, tragedy, comedy, and romance, &c. none of them...
them have escaped oblivion. As a patron and encourager of literature, he has been mentioned with respect and applause. 

Boyle, Robert, an eminent philosopher, illustrious by birth, learning, and virtue, was the 7th son of Richard, Earl of Cork; and born at Lismore in the county of Cork, February 25th, 1625-7. In his infancy he was committed to the care of country nurses, with instructions to bring him up hardly, as if he were her own son; and he thus acquired a strong and vigorous constitution, which was afterwards emboldened by too tender treatment. About the age of five years, he lost his mother, whom he mentions with great respect; and whilst he was under the care of his nurses he acquired, by imitating some children of his own age, a habit of fluttering, which was never entirely cured. In his father's house he was taught to write a fair hand, and to speak both French and Latin; and at this early period he manifested a docility and an invariable regard to truth, which very much endeared him to his father, and formed distinguishing features of his character in the progress of his life. In 1635, when he was about eight years of age, he was sent to Eton college, of which Sir Henry Wotton was then provost, and placed under the care of Mr. Harrison, to whose attention and judicious mode of instruction he acknowledged himself indebted for those habits of assiduous investigation in which he afterwards excelled. At Eton he was afflicted with an ague, which rendered it advisable to divert his attention from the course of study which he was pursuing, and to allow him to seek that kind of amusement, which the perusal of romances might afford him; but though he was only 10 years old, he was sensible of the injury produced by this kind of detestatory reading; and as soon as he regained his health, he sought a remedy for this evil in the severer studies of mathematics and laborious calculations. After having spent between 3 and 4 years at Eton, he was placed under private tuition for the recovery of his knowledge of the Latin language which he had nearly lost; and in 1638 he accompanied his brother Francis on his foreign travels, under the care of Mr. Marcomes. In their route they passed from Dieppe to Rouen, Paris, and Lyons, and at length settled at Geneva, where they were directed to remain and to pursue their studies. The principal objects of Mr. Boyle's attention were mathematics, in the prosecution of which he found great pleasure; but besides these, he employed himself in the study of rhetoric, logic, and political geography, and in acquiring the external accomplishments of fencing, dancing, &c. At this time some incidents happened, which concurred with his naturally serious disposition to direct his thoughts to the subject of religion; and in examining the evidences of the chrisitian revelation, he obtained full satisfaction, notwithstanding the doubts and difficulties which had occasionally perplexed his mind; and was confirmed, in his belief of its truth and importance. Having remained a year and three quarters at Geneva, he left it in September 1641, and traversing various parts of Italy and Lombardy he arrived at Venice; and from Venice he proceeded to Florence, where he spent the winter. During his residence in this city, he acquired a knowledge of the Italian language; and employed a great part of his time in reading modern history; and in acquainting himself with the new discoveries of Galileo, who died in the vicinity of Florence at the period of Mr. Boyle's abode in this city. Towards the end of March, 1643, he commenced his journey to Rome, visiting the most remarkable places in his route thither; and from Rome, where his stay was short, he returned to Florence, and from thence he passed to Leghorn, and afterwards to Geneva. Having travelled through the country of Nice, and crossed the sea to Antiques, he proceeded to Marseille, where he expected bills of exchange; but, to his great mortification, he found a letter from his father informing him and his brother, that the rebellion had broke out in Ireland, and that it was with considerable difficulty that he had been able to procure for them a remittance of 250l. in order to defray their expenses in their return to their own country. But through the negligence of the person, to whom the remittance was entrusted, they received no part of this money, and were, therefore, left in a destitute condition. At Geneva, whither they were enabled to proceed by the assistance of Mr. Marcomes, their governor, they waited two years without receiving any supplies; and by the dishood of some jewells which they took up on his credit, as they proceeded on their journey homeward, their travelling expenses were defrayed, and they arrived safe in England about the middle of the year 1645. On their arrival they received the news of their father's death; but Mr. Boyle was amply provided for by the bequest of the manor of Stalbridge in England and other estates in Ireland; and yet on account of the confusion of the times, he was for some months unable to procure any money. However he was relieved on his arrival by his sister the lady Kanelagh; and by her interest, and that of his brother lord Broughill, his English and Irish estates were secured for him. He also obtained leave to go to France; and having settled his accounts with Mr. Marcomes, he soon returned. In March, 1645, he retired to his manor of Stalbridge, and for 5 years devoted himself to various kinds of literary and scientific pursuits in this place; and more particularly to the study of natural philosophy and chemistry. During this period of retirement, when he was about 20 years of age, he commenced that extensive correspondence with the principal persons of his time, which he maintained, with distinguishing reputation to himself and benefit to the world, till near the close of his life. In the list of his religious and literary friends and correspondents, we may enumerate Mr. Francis Talents, afterwards known to the world as the author of the "Chronological Tables;" Mr. Samuel Harthib, whom he greatly esteemed, and who is mentioned with peculiar commendation by Milton in his "Tractate of Education;" Dr. William Petty; Mr. John Beale, besides many others. At this early age he manifested his zeal for religion, as well as his candour and christian charity, by favouring the designs of Mr. John Druyer, for effecting a reconciliation between the Lutherans and Calvinists. He was likewise one of the first members of that learned body, which, after the restoration was incorporated under the title of the Royal Society. Notwithstanding the dislike of the throne, with which he was afflicted, and numerous avocations which his various connections imposed upon him, his application to study was assiduous and indefatigable; and before he had attained the age of 20, he had completed three treatises, viz. "Seraphic Love," "An Essay on the Motion of Cold," and "An Essay against the Coexistence of Causes." Mr. Boyle was distinguished as a promotor of literature and science, by his patronage of others engaged in similar pursuits, as well as by his own labour and writings. Accordingly in 1651, Dr. Nathanial Highmore, an eminent physician, dedicated to him his "History of Generation," which was a laborious work at that time much esteemed. When he was unerring in his chemical and philosophical inquiries and experiments, he was no less attentive to the subject of religion; and with this view he applied to the study of the scriptures in their original languages. About the year 1652 he began his "Essay on Scripture;" and he continued it during frequent interruptions, occasioned by his journeys to Ireland at this period. Ireland, however, where he spent a great part of
two years, from 1652 to 1654, did not afford favourable opportunity for prosecuting the researches to which he was devoted; and, therefore, he employed the time of his continuance there principally in anatomical dissections, with the assistance of his friend Doctor, (afterwards Sir William) Petty. Upon his return to England in 1654, he settled at Oxford, where he had the advantage of pursuing his experiments, and where he enjoyed the society of many learned friends, who occupied different situations in the university. It was during his residence at Oxford, that he invented, or rather improved, the construction of the air pump (See Air pump); an instrument, by the use of which he was enabled to perform a variety of experiments, relating to the gravity and elasticity, and other qualities of the air, which entitled him to rank amongst the first philosophers of any age. He had at this early period of his scientific career renounced the philosophy of Aristotle, as a fyllem of words instead of things; and attached to the only just and effectual mode of pursuing philosophical researches by experiment, and fearing lest his mind should acquire any improper bias from the ingenuity of the author, he declined the perusal of the works of Des Cartes, whose philosophy was held by many in high estimation. Mr. Boyle did not restrict himself, whilst he continued at Oxford, to the study of philosophy; but he availed himself, in the prosecution of sacred criticism, of the assistance of those great orientalists, Dr. Edward Pococke, Mr. Thomas Hyde, Mr. Samuel Clarke, and Dr. Thomas Barlow, afterwards bishop of Lincoln. His correspondence was also at that time very extensive; and was carried on for the purpose of the promotion of science with Mr. Henry Oldenburgh, afterwards secretary to the Royal Society, Dr. John Beale, John Evelyn esq., Dr. John Pett, and Dr. John Wallis, who honoured him with the dedication of his excellent treatise "De Cycloides et corporibus inde genitis."

In 1659, as soon as he was made acquainted with the distressed circumstances of Dr. Robert Sanderson, afterwards bishop of Lincoln, who had been deprived of his preferments on account of his attachment to the royal cause, he settled upon him an annuity of fifty pounds a year; a favour which was respectfully acknowledged by the doctor in his dedication of "Ten lectures on cafes of conscience," delivered in Latin in 1657, and printed at Oxford in 1659.

After the restoration in 1660, Mr. Boyle was treated with great respect by the king, and also by the lord-treasurer, lord Southampton, and lord-chancellor Clarendon; and by the latter he was urged to enter into holy orders. Having considered the proposal with due attention, his pious scruples determined him to decline the clerical office. In this year he published his "New experiments touching the spring of the air;" which involved him in a controversy with Franciscus Linus and Mr. Thomas Hobbes, and to which he annexed a defence in the edition of 1662; and also his discourse "On saprophile love." Mr. Boyle's reputation had at this time extended itself to foreign countries; so that the grand duke of Tuscany communicated to him by Mr. Southwell, then resident at Florence, his wish to correspond with him on philosophical subjects. In 1661 he published his "Physiological essays, and other tracts;" and soon afterwards his "Sceptical chymist." Other treatises, to which he refers in this publication, and which were in great forwards, were unfortunately lost at the time of the great fire of London. In 1662, a grant of the forfeited appropriations in Ireland was obtained from the king in his name, but without his knowledge; and they were applied by him to the promotion of religion and learning. He was also appointed governor of the corporation for propagating the gospel in New England; and in this office he was active and successful in refounding the state, of which they had been deprived by Col. Bedingfield, a papist, although they had given him for it a valuable consideration. In the conduct of the concerns of this institution he was, in other respects, eminently useful. When the royal society was incorporated in 1662, Mr. Boyle was appointed one of the council; and as he may justly be regarded as one of the founders of this society, he continued through life one of its most useful and industrious members. In the following year he published his "Considerations on the usefulness of experimental philosophy;" his "Experiments and considerations upon colours," with "Observations on a diamond that shines in the dark;" and "Considerations on the style of the holy scripture," extracted from a larger work, entitled "An essay on scripture," published after his death by Mr. Peter Pett, attorney-general for Ireland. In 1664, Mr. Boyle was elected into the company of royal miners; this new connection, and other engagements of a benevolent and public nature, prevented his publishing any treatises, either on religion or philosophy, in this year. But the year 1665 produced his "Occasional reflections on several subjects," to which is prefixed, "A discourse concerning the nature and use of such kind of writings." This piece, which had been written by Mr. Boyle in his youth, and at various intervals, was rudely attacked by Dr. Swift in his "Pious meditations upon a broomstick, in the style of the honourable Robert Boyle." How far Mr. Boyle professed in his youth, or acquired in his mature years, a correct taste and style of writing, particularly in works of imagination, it is now needless to inquire; it is sufficient to observe, that no attack on the part of Dr. Swift can affect the fame of this distinguished person, either as a man or a philosopher. In this year Mr. Boyle, besides some communications to the Royal Society, printed in the Philosophical Transactions, published "Experiments and observations relative to an experimental history of cold, with several pieces thereunto annexed;" a work well received at the time, and containing a variety of observations and facts that have been useful to those who, in more modern times, have directed their attention to this interesting subject. Towards the close of this year, his majesty appointed Mr. Boyle provost of Eton college; but he declined accepting this honourable and lucrative office, because he did not with his studies be interrupted, and because he thought it more suitable to a person in holy orders.

About this time Mr. Valentine Greatrakes, an Irish gentleman of good family and competent fortune, and of a ferious disposition inclining to melancholy, perfuaded himself that he possess'd the power of curing diseases by brooking. In some cases he succeeded, but in others he failed. His performances, however, were so extraordinary, that they excited very general attention; and an account of them was published, by Mr. Henry Stubbs, in a letter entitled "The miraculous conf found of St. Joseph, &c." and addressed to Mr. Boyle. To this letter Mr. Boyle replied; but his answer was not published till eighty years afterwards, in Dr. Birch's account of his life. Nevertheless, the sentiments and reflections contained in it were probably communicated to his friends; and though they were expressed with a caution, candour, and judgment, that did him great honour, they were thought to contain some what pernicious, or the mere effects of enthusiasm, and they produced a controversy of some continuance. As far as Mr. Boyle was concerned in this busines, it will be sufficient to observe, that, firmly believing the actual exercice of those miraculous powers which attested the truth and divine origin of christianity, and admiring, in consequence of the extent and variety of his rearches, VOL. V.
researches into the operations of nature, the reality of facts, which he could not immediately reconcile by analogy to the small aggregate of human acquisition, the letter, hastily written by him in reply to Mr. Stubb, did not at all derogate from his character as a philosoper, or as a man of rational piety. He neither denied nor admitted the existence of the miraculous power ascribed to Mr. Greatrakes; but allowing the facts, he proposed a variety of inferences and queries, which demanded discussion; and in the whole of this controversy he conducted himself in such a manner as to avoid personal confiture from any of the disputants. See

Screaming.

In 1690 Dr. Wallis addressed to Mr. Boyle, "An hypothesis about the flux and reflux of the seas," printed in N. xvii. of the Philosophical Transactions; and Dr. Sydenham dedicated to him his "Mathematici curandi fines, praecipua observationum super intellectus."

His own publications in this year were "Hydrostatic paradoxes."

"Of the origin of forms and qualities, according to the corpuscular philosophy, illustrated by experiments;" and several papers communicated to the Royal Society, and printed in the Philosophical Transactions of that period. In the disputes that occurred in the establishment of the Royal Society between the adherents to the Aristotelian or old philosophy, and the advocates for the new method of philosophizing by experiments, Mr. Boyle took a decided part with the latter; but without incurring cenfore or reproach from the most violent of the opposite party. About this time Mr. Boyle removed to London, where he afterwards resided, very much to the advantage of the Royal Society, which he condescended by his personal presence and philosophical communications; as well as of the cause of science in general.

In 1669, he published his "Continuation of new experiments touching the weight and spring of the air," to which he annexed "A discourse of the atmospheres of confident bodies;" and also "A discourse of absolute root in bodies;" together with other hydrostatical pieces subjoined to his larger works: and in the same year he revised several of his former tracts, which had been translated into Latin for the benefit of foreigners. In the following year appeared his tracts "Of the cestinal qualities of things," containing a variety of interesting facts and observations; and several papers, communicated to the Royal Society. At this time his studies were interrupted by a stroke of the palsy, the effects of which were removed by a strict attention to a proper regimen; so that he soon returned to his labours. In 1671, he published a second volume of "Considerations touching the usefulness of experimental philosophy," and "Tracts of a discovery of the admirable rarefaction of the air, &c.;" and in 1672 appeared his "Essay concerning the origin and virtue of gems," 8vo.; his "Tracts, containing new experiments touching the relation between flame and air, and various other intersting subjects chiefly relating to the flatical action of fluids;" and, in the Philosophical Transactions, "Observations on shining fish," and a paper on the effects of the varying pressure of air. In 1673 he published "Essays on the strange subtlety, great efficacy, and determinate nature of effluviums;" "Experiments on the weighing and coercion of fire and flame," 8vo.; and "A letter concerning ambergris," communicated to the Royal Society. In 1674 appeared a collection of "Tracts on the flatness of the sea; on a flatygeoscopic; on the natural and preternatural state of bodies, and on the positive or private nature of cold," 8vo.; "The excellency of theology compared with natural philosophy," 8vo.; "Tracts, containing sulphuricous about the hidden qualities of the air: animadversions upon Hobbes's problem concerning a va-

cium; and a discourse of the cause of attraction by suction," 8vo.; and in this year he communicated to the editor of the Philosophical Transactions, "An account of the two sorts of hydrostatical lawns." In 1675 he published "Some considerations about the reconcileableness of reason and religion," by T. E. a layman; to which is annexed, by the publisher, "A discourse of Mr. Boyle about the possibility of the resurrection," 8vo. T. E. are supposed to be the final letters of his own name, as both these tracts are ascribed to him. In this year he communicated to the Royal Society four papers, which appear in the Transactions: "On the air-blisters of fishes;" "A new elysian instrument;" "New experiments touching the flashing of the air, &c.," and "An experimental discourse of quicksilver growing hot with gold." In 1676 he published "Experiments and notes about the mechanical origin of particular qualities," in which he treats of alkalis and acids, heat and cold, tables, colours, volatility, fixity, correlative action, precipitation, magnetism, and electricity; and he also communicated to the Royal Society two papers on the configuration of the surfaces of fluids in contact with each other.

Mr. Boyle, having been for several years an active and useful director of the East-India company, wishing to avail himself of his office for propagating the gospel in those remote parts to which their commerce extended; and with this view he caused 500 copies of the four gospels and acts of the apostles to be printed at Oxford, in the Malay tongue, under the direction of Dr. Thomas Hyde, and to be lent abroad at his own expense. For similar purposes of piety and benevolence, he had transmitted, about three years before, several copies of Grotius's "De veritate Christiana religionis," translated into Arabic by Dr. Edward Pococke, into the Levant.

In 1677 a miscellaneous collection of his works, defective, and badly arranged, was printed in Latin at Geneva. In the following year he communicated to Mr. Hook a "Short memoir of some observations made upon an artificial substance that shines without any preceding illustration," which was published in that philosopher's "Cutle-

rian lectures:" this substance was the phosphenus of urine. In this year he also published his "Historical narrative of a degradation of gold made by an anti-elixir," 4to.; and he received a tribute of singular respect, in a letter from the great Newton, laying before him his sentiments concerning an ethereal medium, which he afterwards proposed, in his Optics, as the mechanical cause of gravitation. In the year 1685, he published "The aerial noetics," 8vo.; and "An account of a new lamp," in Hook's Philosophical Collection; and he improved the second edition of his "Scepti-

cal Cynismi." Some persons have very unwarrantably as-

toed, that Mr. Boyle affirmed to himself the invention of phosphenus, after having purchased the secret of Kraft. This calamity is refuted by his own narrative, in which he dissects the claims of Brand, Kuncell, and Kraft, and acknowledges the advantage which he derived, in the prosecution of his inquiries, from the information communicated to him by the latter, that the shining substance was obtained from a matter belonging to the human body. From the narrative it appears, that the aerial noetics was an aqueous solution, or diffusion of phosphenus, obtained by distillation from putrid urine in an experiment where his retort failed; and which did not prove altogether successful. At the annual elec-

tion of officers for this year, Mr. Boyle was elected president of the Royal Society; but having objections of delicacy with regard to the official oaths that are required, and for some other reasons, he declined accepting the honour. At this time
time he contributed very liberally to the publication of Burnet's History of the Reformation, as the author acknowledges in his preface to the second volume. It was probably about the beginning of the year 1681, that he exerted himself for promoting the propagation of the gospel among the Indians; as his letter on this subject was a reply to one from Mr. John Elliot, of New England, dated Nov. 4, 1680. From this letter, which is preferved by Dr. Birch, it appears that he was a declared enemy to perfection on account of religious opinions. In this year (1681) he published his "Discourses of things above reason," and in the following year, "New experiments and observations made upon the icy nocticula," 8vo.; and also a "Continuation of new experiments physico-mechanical, touching the spring and weight of the air, with a large appendix." It appears that this icy nocticula was the solid phosphorus, which at first he found some difficulty in making; but from a paper left with the secretary of the Royal Society, to be opened after his death, which was nevertheless communicated to his friend Dr. Bell, during his life, we find that he evaporated urine by distillation till it acquired the confiuence of syrup, then mixed it with silicious land, and distilled by a strong heat into a reftor with containing water. See PHASOPHUS. In 1685 he wrote a letter, relating and encouraging an undertaking of Mr. Fitzgerald for rendering sea-water fresh; and in the following year, he published his "Natural history of human blood," and his "Experiments and considerations about the porosity of bodies," both in 8vo. From a letter addressed to Mr. Boyle in 1684 by the learned Dr. Cudworth, it appears how highly he appreciated his talents and labours. After recommending a collection of his several tracts, he concludes in these terms: "You have much outdone Sir Francis Bacon in your natural experiments; and you have not infalted any thing, as he is thought to have done, tending to irreligion, but the contrary." The year 1685 produced his "Short memoirs for the natural experimental history of mineral waters," and an "Essay on the great effects of even languid and unexcited motion," to which is annexed an "Experimental discourse of some hitherto little regarded causes of the faufrity and insalubrity of the air," 8vo. In the course of that year appeared in the Philosophical Transactions, "An account of a strangely self-moving liquor," which was a compound of oils and bitumens, the ingredients of which, though known to himself, he has not specified: and also a distinct tracts: "On the recommendableness of specific medicines to the corporcular; philosophy, to which is annexed, a discourse about the advantages of simple medicines," 8vo. Besides these philosophical tractes, he presented the world in this year with a theological tract, entitled, "Of the high veneration man's intellect owes to God, particularly for his wisdom and power," 8vo. The only work that appeared in 1686, was his "Free inquiry into the vulgar and received notion of nature." This tractate was much admired by the advocates for pure religion and found philosophy; it was translated into Latin, and repinted in the following year in 12mo. In this year, 1687, he published a work, written in his youth, entitled "The martyrdom of Theodore and Dydymus," and five decades of "Choice remedies," to which when the work was repinted in 1692, five more were added. In 1688 appeared "A disquisition about the final causes of natural things; wherein it is inquired whether, and if at all, with what caution, a naturalist should admit them; to which was subjoined, by way of appendix, "Some uncommon observations about vitiated sight." About the beginning of this year our author found it expedient to apprize the public, by way of preface to his mutilated and unfinished writings, and as a general apology for the state in which they appeared, that some of his papers had been stolen from him, and that others had been destroyed by corrosive liquors. The decay of his health, and the arrange- ment of his affairs in Ireland, obliged him to diminish the number of his communications to the Royal Society, and induced him to resign the office of governor of the corporation for propagating the gospel in New England. From other arrangements with regard to his private affairs, his papers, and the number of visits which he received, it appeared that he was not without apprehensions of an approaching change. The time, however, which he thus referred to himself, he indistinctly improved; as he avoided himself of it for collecting various elaborate processses in chemistry; which, as we are informed in a letter preferved by Dr. Birch, "he left as a kind of hermetic legacy to the studious disciples of that art." This collection he committed to the care of a friend, enjoining him to impart it to the public faithfully, and without envy, verbatim in his own expressions. This friend is unknown, and the work was never published. From many circumstances, however, we are led to conclude, that Mr. Boyle concurred, with many other ingenious alchemists of the age in which he lived, in believing, what is now rejected as a groundless opinion, the possibility of transmuting the baftr metals into gold; and hence, probably, he was led to take pains in procuring, in 1689, the repeal of the statute of the 5th of Henry IV. against the multiplying of gold and silver.

In 1690, he published his "Medicina hydrostatica, or hydromatics applied to the materia medica," 8vo. with the promise of a second volume, which never appeared; and "The Christian virtuoso, flowing, that by being addicted to experimental philosophy, a man is rather afflicted, than indispensed to be a good christian," a second part of which was published in an imperfect state, after his death. In 1691, he communicated to M. de la Croze, "An account of some observations made in the great congregation of waters, by lowering down bottles into the sea 600 feet from the surface," which was printed by that author in the "History of learning." Mr. Boyle's last work, published by himself, was his "Experiments et observationes physicae," to which is added "A small collection of strange reports," 8vo.

In July of this year, Mr. Boyle executed his last will, and in the succeeding months his health rapidly declined. On the 23d of December, he left his wife, lady Ranulph, to whom he was affectionately attached, and within a week afterwards, viz. on the 30th of December, 1691, he departed this life, in the 65th year of his age, and was interred at the upper end of the south side of the chancel of St. Martin's in the fields, near the remains of his father, with whom he had lived for the greatest part of 47 years. His funeral sermon was preached by Dr. Burnet, bishop of Salisbury.

Mr. Boyle's posthumous works are as follow: 1. "The general history of the air, designed and begun," 1692, 4to.; 2. "Medical experiments, or a collection of choice remedies, for the most part simple, and easily prepared," 1693, 12mo.; 3. "General heads for the natural history of a country, great or small, drawn out for the use of travellers and navigators," 1692, 12mo.; 4. "A paper of the honourable Robert Boyle's, deposited with the secretaries of the Royal Society, Oct. 14, 1680, and opened since his death; being an account of his making the phosphorus, &c. Sept. 50, 1683," 5. "An account of a way of examining waters, as to acidines or alkalines;" 6. "A free discourse against cultery glasses, and a diffusion from curdling," 1695, 8vo. 7. "Medical experiments, or a cole-..."
collection of choice remedies, chiefly simple and easily prepared, used in families, and fit for the service of the country people;" the 3d and last volume published from the author's original MSS. A collection of all Mr. Boyle's works was published in 1744, in 6 volumes folio, with a life prefixed, by Dr. Birch; and in 6 vols. 4to, in 1772.

Mr. Boyle, as to his person, was tall and slender, and of a pale and emaciated countenance. His constitution was so delicate, that he regulated his clothing by a thermometer; and he was occasionally subject to such dizziness of body, such painful paroxysms of the face, and such depression of spirits, that we may be well astonished at the number and variety of his scientific and literary performances. However, to the impiety of his diet, and the strict temperance which he observed, we may reasonably ascribe the degree of health which he enjoyed, and the length to which his life was protracted. His speech was slow and deliberate, and subject to hesitation; in his conversation he was unflattering, never dictating his own opinions, or urging his objections to those of others with confidence, but rather proposing them as topics of inquiry and discussion; and in his manners he was singularly mild and courteous. Although he was a favorite at court, and indulged in free intercourse with three successive sovereigns, viz. Charles II. James II. and William III., he never disguised his sentiments with regard to public men and measures; but he took no active part in the politics of the eventful times in which he lived, preferring the pursuits of philosophy, and the retirement which well suited his infirm frame and religious temper. To the rank of a peerage he never aspired, but refused it whenever it was offered to him. One of the most prominent features of his character, was his sincere and unaffected piety. This was exemplified in all his writings, and in the whole course of his life. Of his firm attachment to Christianity, and of his solicitude for vindicating its truth, and extending the knowledge and influence of it, he exhibited many substantial proofs, both whilst he lived, and at his death. Besides the translation of the gospels and books of acts into the Malay language, and of Grotius's treatise concerning the truth of the Christian religion into Arabic, which we have already mentioned, and which was conducted at his own expense, he proposed an impression of the New Testament in the Turkish language; and when the Turkey company undertook it, he liberally contributed towards accomplishing it. A translation and edition of the Bible in the Irish language colli him 700l.; and he defrayed a considerable part of the charge attending an impression of the Welsh Bible, and of the Irish Bible for Scotland. He gave, during his life, 300l. towards propagating the Christian religion in America; and as soon as he heard that the East India company were projecting a similar design in the East, he sent a donation of 100l. by way of example and encouragement in the prosecution of the scheme. Of the improprations belonging to his estates he ordered considerable sums to be given to the incumbents in these parishes, and even to the widows of those who had died before this distribution of his bounty. This he did twice during his life to the amount of 100l, and he ordered another distribution as far as his estate would bear, by his will. In other respects, his charities were so numerous and extensive, that they amounted, as bishop Burnet informs us, from his own knowledge, to upwards of 1000l. per annum. The annuity established by his will for providing a series of lectures in defence of Christianity, affords further evidence of the benevolence of his temper, and of his concern for promoting the interests of religion. See Boyle's Lectures. His zeal in the cause of religion, though it was ardent and active, was free from the least tincture of bigotry and intolerance. Whilst he adhered to the established church, he entertained the most undiffused charity towards all who differed from him in opinion: nor did he ever express himself in stronger terms, and with a greater degree of indignation, than when he condemned every kind of severity and persecution in the province of religion. Burnet in his funeral oration informs us, that his knowledge comprehended Hebrew and the other Oriental languages, the writings of the most eminent fathers, commentaries on the scriptures, religious controversies, and the whole body of divinity. He represents him as having acquainted with the whole compass of the mathematical sciences, and as well versed even in the most abstruse parts of geometry. Geography, navigation, and books of travel he had recourse to for the relaxation of his mind, and the amusement of his intervals of leisure. Of his knowledge with regard to subjects of natural history, chemistry, and experimental philosophy, his various researches and discoveries, recorded in his numerous publications already referred, afford ample evidence. Mr. Boyle, indeed, polished in an eminent degree those qualities, which justify his being ranked among the first philosophers of any age or country. He was distinguished by the comprehension of his views, and the extent and variety of his researches, by indefatigable diligence and invincible perseverance in his collection of facts and investigation of their causes, by a total freedom from any preconceived attachment to theories and systems, by candour in discrediting the opinions of others, and by fidelity, modesty and perfunctious in the narration of his own performances. Mr. John Hughes might well say of him (Spectator No. 554), after observing that he was born the same year in which lord Bacon died, that he was the person designed by nature to succeed to the labours and inquiries of that extraordinary genius. It would be endless to recount the testimonies in commendation of him, that might be collected from the writings of the most illustrious foreigners, and of the best judges of his merit in our own country. It will be sufficient to say, that he is uniformly ranked with Bacon and Newton; that his researches and experiments have led the way to many modern discoveries, both in philosophy and chemistry; and that his writings will ever be held in high estimation by every friend of science. "They cannot be read," says one of his biographers, "without improvement; and in these alone, if no life of Boyle had ever been written, the reader would behold a man truly deserving of the affliction, the estate, and the admiration of succeeding ages." Boyle's account of himself, under the name of Philocetes. Birch's life of Boyle, prefixed to his works. Burnet's funeral sermon. Biog. Brit. Birch's Hist. of the Royal Society. Phil. Trans. Boyle, Charles, fourth earl of Orrery, and baron Marli ton in England, was the second son of Roger, second earl of Orrery, and was born at Chelsea in 1676. At the age of 15 he was entered at Christ Church college in the university of Oxford, where his tutors were Dr. Atterbury, afterwards bishop of Rochester, and Dr. Freind. His application and proficiency were so distinguished, that he was elected by Dr. Aldrich, the dean, "the great ornament of our college," and deputed to prepare an edition of some classic author, for his annual publication. The book recommended by the dean was the "Epistles of Phalaris," of which a splendid edition appeared in 1695. This publication gave rise to a controversy, the particulars of which have been already detailed under the article Bentley. We shall here add, that from a letter of bishop Atterbury to Mr. Boyle, written in 1698, (see Epistolary Correspondence)
ence, &c. published by Mr. Nichols, vol. ii.) it appears, that the former laid the design of the celebrated book, in answer to Bentley's dissertations, wrote above half of it, revised a good part of the rest, and transcribed the whole. Upon the death of his father, Mr. Boyle quitted the university and entered into public life. He was chosen as a member of the house of commons in 1700; and when his brother Lionel died in 1702, he succeeded to the title of the earl of Orrery. For his services in the army, he was elected, in 1705, one of the kings' companions of the most ancient order of the thistle; and as a major-general, to which rank he was advanced in 1709, he distinguished himself at the battle of the Wood in Flanders. He afterwards retired for some time at Brusells, as the queen's envoy to the states of Brabant and Flanders; and for his faithful discharge of this trust, he was raised to the dignity of a British peer. On the accession of George I. he received additional honours; but during the absence of the king at Hanover in 1716, his regiment was taken from him: upon which he resigned his post of lord of the bed-chamber, and withdrew from public affairs. When Layer's plot broke out, he was suspected by the government, and committed to the tower: however, after being confined 6 months, he was first liberated by bail, and at length discharged. From this time he amused himself with his library and philosophical apparatus, till his death, which happened in August 1731. He was much esteemed for his domestic and social qualities; and respected for his talents and literary attainments. He was the author of a comedy, entitled "As you find it," and also of some longs and occasional poems; but his favourite studies were of a different kind. The astronomical instrument called an "orrery," and first invented by Rowley, whom he patronized, derived its name from his title. See Orrery. Biog. Brit.

Boyle, John, earl of Cork and Orrery, only son of Charles, fourth earl of Orrery, by lady Cecil, daughter of the earl of Exeter, was born in 1707, and for his early education entrusted to the care of Mr. Fenton, the poet. From Westminster school, whither he had been sent at a proper age, he removed to Christ-church college, Oxford. As an instance of his filial piety, which does him honour, it is related, that when his father was committed to the Tower, he earnestly intreated to be confined with him; but this indulgence was refused. Soon after the completion of his fifth year, in 1728, he married lady Harriet Hamilton, the young eldest daughter of George, earl of Orkney. A difference which occurred between the two, ears produced a temporary misunderstanding between the earl of Orrery and his son. This misunderstanding is said to have originated in lord Boyle's refusal to suffer his wife to sit at table with his father's mistresses. However this be, the son's conduct on the occasion, and in a situation peculiarly delicate and trying, reflected great honour on his judgment and temper. Although a reconciliation had been effected between the father and son, yet the latter found reason to regret their separation: for under the influence of a prejudice hastily conceived, the earl had made his will, and bequeathed his valuable library, consisting of above 10,000 volumes, with the exception of the journals of the house of peers, and books relating to the English history and constitution, bequeathed to his son, and a fine collection of philosophical instruments, to the college of Christ-church. After their reconciliation, he determined to alter his will, and had lent for his attorney with this view; but the suddenness of his decease prevented the execution of his just design. The young lord, however, beheld on the occasion with a filial pity and generosity, which entail singular honour on his memory. For though his father had died considerably in debt, and had left legacies to a large amount to persons who were no relations, he took his debts upon himself, paid the legacies, and sold the books and mathematical instruments, within the limited time, to Christ-church. The loss of his father, aggravated by the circumstances now recited, made a deep impression upon his mind, and he was succeeded by a fit of illness, which endangered his life. Of the sentiments of his feelings we may form some judgment by the following lines addressed to a friend, in return for a consolatory letter received by him at Bath, and enclosing a copy of verses, which exhort him to dispel his grief by poetry, and to shew that Bath could inspire as well as Temple dignitaries, where, in the preceding year, he had written some humorous verses."

"Nor Bath, nor Tunbridge, can my lays inspire, Nor radiant beauty make me thrice the lyre; Far from the busy crowd I sit forlorn, And sigh in secret, and in silence mourn: Nor of my anguish ever find an end; I weep a father, but I've lost a friend."

Upon the recovery of his health and spirits, he took his seat in the house of peers in January 1732, and distinguished himself by his opposition to sir Robert Walpole's administration, and particularly by his speech against the mutiny bill, and a standing army, which was much applauded. However, the delicacy of his health, his love of retirement, and the necessity of occasional residence in Ireland, precluded him from a regular attendance on his parliamentary duties. During his residence in Ireland, he became acquainted with dean Swift, who professed a high regard for him, and introduced him to the friendship of Mr. Pope. Upon his return to England, in 1733, he retired to his seat at Marlton in Somerfetshire, and amplyd himself in buildings, planting, and improving both his estate and his library. In 1737 he took a house in town, for the convenience of superintending the education of his sons at Westminster school. Having lost his first lady in 1737, he married a second wife in 1758; and with both he enjoyed the most uninterrupted state of domestic felicity. In 1739 he published a new edition, in 2 volumes 8vo. of the dramatic works of his great grandfather, Roger, earl of Orrery, and, in 1743, his letter to a woman in one volume. The full of his own performances, which was imitations of the first and fifth odes of the first book of Horace, with remarks on the peculiar excellencies of this poet, and on the translations of Duke and Sanderson, appeared in 1741, fol. In 1743 his lordship was pronounced, by the university of Oxford, with the honorary degree of doctor of civil law, and he was likewise elected a fellow of the Royal Society. In 1746 he removed to Caledon in Ireland, where he resided, with little interruption, till the year 1756; employing his intervals of leisure in laying out gardens and plantations, and in various substantial and ornamental improvements. On his return to Marlton he pursued these alterations and improvements which he had begun at a former period. In the mean while, the employment of his winter evenings was his "Translation of the Letters of Pliny the Younger, with observations on each letter, and an essay on Pliny's life," which was published at London in 1751, in 2 volumes 4to. and since reprinted in 8vo. This work was well received, and established the reputation of the author as a polite scholar; and it would have still retained its character as a standard work of the kind, if it had not suffered by the inferior elegance of Mr. Mcintosh's translation. In the same year appeared his "Remarks on the Life and Writings of Dr. Swift," in a series of Letters addressed to his second son; which, abound with popular anecdotes, met with a very rapid sale, though it gave occasion to many criticisms and attacks, or account
account of the freedom with which it represented the def-

found as well as the excellences of the character of his old

friend. The portrait it exhibits is, however, deemed more

suitable than several others of a more flattering kind.

In 1743 Lord Orrery succeeded to the Irish titles of Richard the

court and of Burlington and fourth earl of Cork, who died

without male issue. His lordship continued to amuse himself

and the world by occasional writings; and communicated

several papers, chiefly of the humourous kind, to the peri-

dodical publications entitled, The World," and "The Con-

siderator," the former conducted by Mr. Moore, and the

latter by Mr. Thronton and Mr. Colman. In 1744, he

set out on a tour to Italy, and resided nearly a year at Florence,

where he acquired much elegance, and where he collected

materials for his history of Tuscany, which he proposed to

publish in a series of letters; but of these he only finished

two, which were published after his death in 1774. From

1762 he returned to Marden in 1755; but the last

years of his life were rendered peculiarly distressing to him by

the loss of his wife and his eldest son, and by frequent and

frightful paroxysms of the gout. These trials, however,

he bore with a fortitude and resignation which did honour to his

principles and his character, both as a philosopher and a Christian.

In his distress he sought refuge, like Thiny, in his studies,

and amised himself by publishing, in 1759, from an original MS.

"Memoirs of the Life of Robert Cary, earl of Monmouth," with

a preface, explanatory notes, and a tender-dedication to his

youngest son. He also, in the same year, wrote a preface to

Mrs. Lenox's translation of Brumoy's Greek theatre; and

he transcribed "The Dido and Aeneas," the original of the

Greek," "The original of tragedy," and "The parallel

of the theatres." Some smaller pieces, written by his lord-

ship, are interspersed in the periodical publications of his life.

His last work, which was posthumous, is his "Letters from

Italy," written in the years 1754 and 1755, and published

in 1774, by the Rev. John Duncombe, who hath prefixed a

life of his lordship. In his last illness he is said to have burnt

many MSS. and, among them, the continuation of his letters

from Italy, on account of their not being corrected and fairly

transferred. It is also apprehended, that his Florentine

history underwent the same fate. At length this truly ac-

complished and amiable nobleman fell a sacrifice to an

dehydraulic gout, at a comparatively early period, in November

1762, in the 56th year of his age; and his remains were

interred near to those of his second lady, in the burial-place of

his family in Frome church. He was succeeded as earl of

Cork and Orrery by Hamilton, his second son by his first

cousins; and on his death the titles and estate of the family

devolved on Edmund, his son by his second lady, who became

the seventh earl of Cork and Orrery.

From the tribute of just respect paid to his memory by the

writer of his life, we learn, among other particulars, that "in

every domestic and social relation, in all the enduring con-

nections of life, as a husband, a father, a friend, a matter, he

had few equals. The humour which he received from rank and

title, and from the personal merit of his family, he reflected

back, unimpaired and undiminished; and though the poet of

the world, which he chose and preferred, was a "private

station;" though he was neither a flatterer nor a fiddler, like

the first lord Cork, the first lord Orrery, and his own father;

the rival of Paladio, like the late lord Burlington; or the

rival of Bacon, like Mr. Robert Boyle; yet, in a general

taste for literature, and, as they are commonly called, polite

studies, he was by no means inferior to his ancestors." He

loved truth even to a degree of adoration. He was a real

Christian; and, as such, constantly hoped for a better life;

there truly to know the real causes of those effects, which

here struck him with wonder, but not with doubt." Mr.

Duncombe proceeds to exhibit, in several instances, the

striking resemblance between the earl of Orrery and Pliny,

his favourite Roman. With regard to religion, his senti-

ments were rational, and his moral conduct as irreproachable

and exemplary, as his manners were elegant and accomplished.

His political principles were those of a disinterested patriot,

and an ardent lover of liberty. His sentiments and feelings

on this last subject are admirably displayed in the following

lines, extracted from one of his pieces prefixed to his

"Translation of Pliny," and expressing the love of Britons

for liberty:

"With native freedom, as with courage blent,

Chains, and each mark of thraldom we detest.

'Tis heaven's high gift, 'tis nature's great decree.

That none be slaves, whom God himself made free.

Revere we ought those powers which we enthrall,

But to ourselves be absolutely just:

Scorn base corruption, nor, like slaves, dishonour

The laws that fix'd our monarch in his throne:

For well we know, by Truth's eternal rules,

Whence slaves are free, sing, subjects must be fools.

Exert but reason, liberty will reign,

And tyranny exalt her impious head in vain."

Biog. Brit.

Boyle, in Geography, a market and port town of the

county of Roscommon, and province of Connaught, Ire-

land, sometimes, but improperly, called Abbey-Boyle. It

is situated on the river Boyle over which it has two stone

bridges. In 1756, it contained about 260 families, and has

probably increased; its linen markets having of late become

considerable from the improved state of the yarn and linen

manufactures in its neighbourhood. This town had a castle,

which was of great strength, having held out during the

civil war of 1641. It was one of the new corporations in

the reign of James I. and continued to send two members to

parliament until the act of union deprived it of that privilege.

In the neighbourhood, and at present included within the

demise of lord Kinlton, is the ruin of the abbey of Boyle,

finely situated near Lough Key, from which the town

derived its name, and probably its existence. It belonged

to the Cisterian monks, and was founded in 1161, after

three or four other places had been tried, and not found

sufficiently agreeable. The monkish records mention several

noble converts who took the habit of the order, and probably

enriched it with considerable benefactions; and they also

mention some instances of sacrilegious plunder, in the

wars which for so long a time distracted Ireland. When the

dissolution took place, the property of the abbey was found

to be very considerable, and was granted to sir John Kin-

cestor of the earl of Kinlton, by James I. in 1623, in

reward of his services. The remains of this ancient erection

are sufficient to show its former magnificence, and defere

the attention of the antiquarian. The architecture is Gothic,

and the arches are enlivened for their noble elevation and

grandeur; and are of so firm a texture as to have with-

stood the severest shocks. Boyle is 8:4 miles N. W. of

Dublin. N. lat. 53° 58′. W. long. 8° 13′. Beaufort—

Moralitic Hibernicum.

Boyle, or Buell, the name of a river which, rising

in the county of Mayo, flows into a romantic sheet of water

called Lough Gaa; thence meandering through woods

and dales, it enters Lough Kee, or Kinglton lake, a beau-

tiful piece of water, interparagus with several islands, some

of which are adorned with old caddies and ruins; others in

the flat of nature, wooded with lofty timber trees; and

some highly improved without a tree to be seen, but the

more
more pleasing prospect of everlastling verdure. The river again emerges out of the cataract side of this lake, as it were by constraint, and then glides on to pay its tribute to the Shannon, which it joins a little above Carrick.

Boyle's Lectures, a course of eight sermons or lectures, preached annually, set foot by the honourable Robert Boyle, esq. by a codicil annexed to his will in 1691; the design of which, as expressed by the inliterator, is, to prove the truth of the Christian religion against infidels, without deceding to any controversies among Christians; and to answer new difficulties, perplexes, &c.

For the support of this lecture, he assigned the rent of his house in Crooked-lane to some learned divine within the bills of mortuary, to be elected for a term not exceeding three years, by the late archbishop Tenison, and others. But the fund proving precarious, the salary was ill paid; to remedy which inconvenience, the said archbishop procured a yearly stipend of 50 pounds, for ever, to be paid quarterly; charged on a farm in the parish of Brill, in the county of Bucks.

To this appointment we are indebted for many elaborate defences both of natural and revealed religion. A collection of these sermons from the year 1691, to 1732, was printed in 1739, under the title of "A defence of natural and revealed religion," in 3 vols. fol.; and those of several of the preachers have been printed and published in different volumes. An abridgment of these lectures in 4 vols. 8vo. was published by the Rev. Mr. Gilbert Burnet, vicar of Coggelhall, in Essex, who died in 1764. Boiler, See Boiling, and Ebulbition.

Boyston, in Geography, a township of Worcestcr county, in the state of Massachusetts, America, 10 miles N. E. of Worcester, and 45 N. W. of Bolton. It was incorporated in 1786, and contains by survey 14,336 acres of land, of rich soil and well watered, and 839 inhabitants.

Boyne, the name of a considerable river in Ireland, supposed to be the Babinda of Ptolemy. It takes its rise in the bog of Allen, in the county of Kildare, and having separated that country from the King's country, and the southern part of Meath for several miles, it enters the latter county at Clonard, and flowing N. W. divides it nearly into two equal parts, forming the general division of the county, and constituting a boundary to every barony touching its banks. The scenery of this river has been much celebrated, and there are few situations adapted to the purpose of mill machinery that are not occupied. In its course within the county of Meath alone, there are six extensive boulting mills, besides several grist and cloth mills; and one for the manufacture of cotton was erected in 1822. The Boyne navigation, between Drogheda and Navan, runs along the course of the river, and has considerably increased the trade of both those towns. At Navan, it receives the Blackwater, and having passed by Slane and Drogheda, it flows into the Irish sea, a few miles below the latter town, to which it is navigable. The fertility of this river is valuable, and the salmon in particular is highly esteemed. The Boyne, however, is not so noted for any circumstance as for the victory gained by William III. over that insatiable prince James II. on the 11th of July, 1690. The place where the battle was fought is between Drogheda and Slane, and is marked out by an obelisk, founded on a rock, which rises boldly from the river. The advantage of situation was in favour of James's army; and if he had not himself fled before the battle was decided, the event might have been very different. The brave duke Schomberg lost his life on this occasion, and William was often in great danger. It was long customary to celebrate the anniversary of the day on which this battle was gained; but as it served no purpose but that of perpetuating party animosity, the observance begins to be neglected; and it is to be hoped that the different acts will become so united in attachment to their common country, as to afford to forget that they were ever enemies. Thomson's Meet, &c.

Boyne, a town of France, in the department of the Loiret, and chief place of a canton, in the district of Pithiviers; 2 leagues S. E. of Pithiviers, and 7 N. E. of Orleans.

Boyse, or Bois, John, in Biography. See Bos.

Boyse, Joseph, a protestant dissenting minister, was born at Leeds, in Yorkshire, in January, 1659-60. After early infiruation under the care of his parents, he received the first part of his education for the ministry at the private academy of the Rev. Mr. Frankland, near Kendal, in Westmorland, and completed it under the tuition of the Rev. Mr. Edward Veal, who kept a private academy at Stepney, near London. Having continued in these seminaries five years, he procured himself of the opportunities which he enjoyed in the latter situation of attending on the preaching of many able divines, both conformists and non-conformists, he entered on the exercise of his ministry about the year 1680. In 1683, finding that he could not discharge the duties of his function in England without molestation, he accepted an invitation to be joint-pastor with Mr. (afterwards Dr.) Daniel Williams, in Dublin; and had afterwards for his co-adjutor the Rev. Mr. Thomas Emlyn, so well known for his writings and his sufferings. This connection subsisted for more than ten years with mutual friendship and uninterrupted harmony; but it was at length dissolved in consequence of Mr. Emlyn's sentiments concerning the doctrine of the Trinity. On this occasion the zeal of Mr. Boyle for the orthodox led him to take some steps that were thought injurious to his former colleague, and inconsistent with the friendship that had subsisted between them; though he disapproved the prosecution which Mr. Emlyn suffered, and behaved towards him with a greater degree of kindness than any of the other dissenting ministers of Dublin. The latter years of Mr. Boyle's life were embittered by bodily disorders and estranged circumstances. His funeral sermon was preached in December, 1728; but the precise time of his death is not known. He was considered as a pious, learned, and useful divine; affable in the exercise of his ministry, and in his conduct generally esteemed. He had a principal concern in promoting the act of toleration in Ireland. His works were published in 1728, in 2 vols. fol. The first contains 71 sermons, 6 dissertations on the doctrine of justification, and a paraphrase on these passages of the N. T. which chiefly relate to that doctrine. The second volume contains several pieces, of which the principal is "A Vindication of the true deity of our blessed Saviour," in answer to Mr. Emlyn's "Humble inquiry into the Scripture account of Jesus Christ, &c." As Mr. Boyle's answer was published at the time when Mr. Emlyn was under prosecution for his sentiments, his conduct did not escape censure; and was thought not to be candid, liberal, and ingenuous. Biog. Brit.

Boyse, Samuel, the son of the former, was born in 1708, and having received the rudiments of his education in a private school at Dublin, was sent, at the age of 18 years, to the university of Glasgow, probably with a view to the office of a minister. Before he had attained his 20th year, he imprentunately married; and this connection, in addition to the natural extravagance of his temper, involved him in pecuniary difficulties, which obliged him to quit the university.
university before he had finished his studies, and to seek relief for himself, his wife, her sister, and family, from his father at Dublin. Notwithstanding the indulgence he received, very much to the injury of his father's circumstances, his own conduct, which was marked by indolence and dilipation, and that of his wife, who was dissolute and vicious, contributed to cause his distress, and to accelerate his ruin.

After the death of his father, all his resources failed, and he was under a necessity of repairing to Edinburgh, where his poetical talents procured him a considerable degree of patronage. In 1731, he published a volume of poems, to which were annexed a translation of "The tablature of Cebes," and "A letter upon liberty," which had been printed in the Dublin Journal, in 1726. This publication gained him reputation, and recommended him to the patronage of the countess of Eglington, to whom it was addressed.

Upon the death of the viscountess Stormont he wrote an elegy, entitled "The tears of the muses," for which he received a handsome present from her husband, lord Stormont. These tokens of favour, on the part of his lordship, and of the countess of Eglington, served to procure for him the patronage of the duchess of Gordon, who employed her interest in obtaining a place for him in the customs at Edinburgh, but he lost the intended benefit by his own negligence.

Having reduced himself by his own imprudence and indolence to extreme poverty and distress, he was under a necessity of leaving Edinburgh; and with recommendations to Mr. Pope and Sir Peter King, then lord chancellor of England, as well as to other persons of rank, fashion, and influence, obtained from the duchess of Gordon, and from lord Stormont, he removed to London.

But his own indigence defeated the kind design of these recommendations, and he again experienced the difficulties of indigence, without making any attempt to extricate himself, besides writing a variety of mendicant letters. These served to procure him a temporary supply, which he soon expended by the most unaccountable and inexcusable extravagance.

About the year 1740, his penury and wretchedness were so extreme, that he pawned his apparel, and even his bed-cloaths, and confined himself in his lodgings and his bed, with no other covering besides a blanket. Wrapped only with this covering, he sat up in bed, having cut a hole through it large enough to receive his arm; and placing the paper on his knees, he scribbled in the bell manner the verses he was obliged to make. When he was under a necessity of appearing abroad, he occasionally supplied the want of a shirt by slips of white paper round his wrists, and neck. In this state he remained for several weeks, without any other subsistence except what he could obtain by writing verses for the magazines, and from benefactions procured by the most abject supplications, and by the meanest arts of deceit.

When he was employed in translating from the French, it was his constant practice, after sending a sheet to the press, to pawn the original, and to repeat this as often as it was redeemed during the course of his work. After passing through various scenes of a wretchedness that is scarcely parallelled in the records of human misery, in the viscidflutes of spinning-houses, garrets, and ale-houses, he resided at Reading, in 1745, where, having lost his wife, he was employed in completing his historical work, entitled "An historical review of the transactions of Europe, from the commencement of the war with Spain in 1739, to the insurrection in Scotland in 1745, &c." and published in 1747 in 2 vols. 8vo.

This work, for which the author was paid at a very low rate, is not defiuite of merit, and contains much useful information respecting the history of that period. After his return from Reading, he married a second wife of low condition, but he assumed a more decent behaviour, and some hopes were entertained of his reformation. He was employed by a bookseller to translate Fenelon's "Demonstration of the being of a God." At this time his appearance was very different from that to which he had been accustomed, and he seemed to pay some regard to his character. Towards the close of his life, and during a lingering illness which preceded his dissolution, the principles which he had imbied, contrasted against the licentiousness and profligacy of his conduct, produced a degree of remorse and self-reproach, which he could not evade or suppress. So deep, indeed, and so permanent were the impressions of his good education, that his whole life was a kind of conflict between his vicious inclinations, and his sober reason. It was, as it is said, from the experience of this mental struggle, that he wrote his poem, entitled "The recantation." He died in indigence and obliqity in London, in the month of May 1744, and was buried at the expense of the parish. Few instances occur, in which distinguished talents have been so lamentably perverted, than in the case of Mr. Boyse. Besides his genius for poetry, he possessed a taste for painting, music, and heraldry; and if his powers had been diligently cultivated and exercised, he might have acquired a higher degree of excellence than he ever attained; and he would certainly have escaped the ignominy and wrath of his conduct, which were the consequences of his misconduct. His poetical effusions, if they were collected from the periodical works in which they were published, would make several volumes. Two volumes were published in London during his life. The most celebrated of his poetical productions was his religious poem, entitled "Deity," and published about the year 1741. This poem received the public commendation of two very different writers, viz. Hervey, in his "Meditations," and Fielding in his "Tom Jones," and it was so popular, as to have passed through three editions in 1752. Of this piece, Mr. Boyse said, that Mr. Pope, upon being asked if he was the author of it, disclaimed the work, but at the same time acknowledged, that there were many lines in it, of which he should not be ashamed. The best of Mr. Boyse's productions are admitted into Dr. Anderson's collection of the poets of Great Britain, printed at Edinburgh. In Ogle's Canterbury tales of Chaucer, modernized, several appear under Mr. Boyse's name, and are executed with spirit. His ode entitled "Alison's triumph," was written on occasion of the battle of Dettingen in 1743, and published without his name. Cibber's lives of the poets, vol. v. Biog. Brit.

BOYERSTEIG, in Geography, a calcareous mountain of Germany, near Stuttgard, the capital of the duchy of Wurttemberg.

BOYUANA, in Zoology, the name of an American kind of serpent, of a long and slender form, the colour entirely black. It is related of the boyuana, that it has exactly the semblance of a fox, but so strong, that no one can endure to be near it. The particular species, or even genus is uncertain. Several of the serpent races have an offensive scent; that of some of the boa tribe is known to be intolerable, when they have seized upon their prey, and begin to anoint it with their saliva, preparatory to swallowing it.

BOZE, Claude Gross, in Biography, an eminent antiquary, was born at Lyons, in 1680, and after first applying himself to jurisprudence, devoted his whole attention to antiquities and medals. In this study he was encouraged by the chancellor Pontchartrain, Bignon, Vai'llant, and Hardouin, who became attached to him on account of both his amiable character and extensive erudition. In
BOZ

1705, he was admitted into the academy of inscriptions and belles letters, and in the following year appointed perpetual secretary. He became a member of the French academy in 1715; and in 1719, he was appointed keeper of the royal cabinet of medals, the treasures of which he augmented by his journey to Holland in the ensuing year. Upon his return to Paris, he devoted himself wholly to his academical and official duties, except that he contributed also some occasional papers to the "Journal des Scavans." He died, much esteemed for the gentleness and politeness of his manners, in 1754.

His publications are, the 15 first volumes of the "Memoirs of the Academy of Inscriptions, &c." to which he added the historical catalogues of its members, published separately in 2 vols. 12mo., and much valued as elegant and judicious compositions, particularly the latter of them; the second edition of the "Medallie history of Lewis XIV." brought down to that king's death, 1727, fol.; "The history of the emperor Tetricus, illustrated by medals;" and several dissertations on medals and other subjects of antiquity, in the academical memoirs. A catalogue of his valuable library was published in 1745, and is highly prized by bibliophiles. Another was published after his death, 1753, 8vo. Moreiri. Nouv. Dicr. Hiflor.

Bozen, in Geography, an island and river in the island of Sardinia. The town is on the south side of the river, which falls into the ocean on the west; and the island of this name lies off the west to the south, between the mouth of that river and another situate to the south of it.

BOZEN, See BozanO.

BOZENTIN, a town of Poland, in the patinate of Cracow, seated at the foot of the Kalkberg mountain, and surrounded with a wall and rampart.

BOZIN, Bosin, Basimek, Basina, or Bazinium, a small, but handsome, free royal city of Lower Hungary, in the upper outward district, seated on a rising ground. The inhabitants are industriously employed in the cultivation of vineyards, trade, and handicrafts. In 1605, 1626, and 1655, this place was laid in ashes.

BOZICK, or Brzick, a small town of Hungary, with a castle, in a district of the same name.

BOZOLS, a town of France, in the department of the Acreydon, and chief place of a canton, in the district of Rodos, or Rhodes, and 10 miles N. E. of it. The town contains 2,360, and the canton 6,627 inhabitants; the territory comprehends 23½ kilometres, and 12 communes.

BOZRAH, in Ancient Geography. See Bostra.

Bozrah, in Geography, a town of America, in New-London county, and state of Connecticut; 36 miles E. from Norwich.

BOZASOTRA, Anthony, in Biography, a celebrated professor of medicine in the university of Naples, his native country, flourished the early part of the 16th century. His works are "Quintus de calido monto," Napoli, 1542, 4to. "De veneficiis in uterum gerenti, adverto negantes hujusmodi auxillium pro cautione abortus," Rome, 1545, 4to. The author thaws that the prohibition of Hippocrates, to the bleeding of pregnant women, arose from the rude custom of bleeding ad consummationem; but that blood might be drawn in small quantities from women in that state, not only safely, but with advantage. "Traütäs quattuordesim medendi methodi, ex Galeno," Napoli, 1549, 8vo. He died Jan. 15, 1557. Haller, Bib. Med. Eloy. Dict. Hist.

BOZZOLO, in Geography, a town and small principality of Italy, in the duchy of Guaitella, adjoining to the Cremona, formerly belonging to the duchy of Mantua, from which it was separated. The town was fortified in 1734. It is situate 15 miles W. of Mantua, and 20 E. of Cremona.

BRA, Henry de, in Biography, commonly called Henry de Bra, a physician of considerable eminence, born at Dunkin, in Wiltshire, on the 25th of September, 1555, was initiated into the study of medicine by his father, who was pensionary physician to the town. To improve his knowledge his father sent him to visit the different universities in France, Italy, and Germany. After spending eight years, he returned by Baden, where he took his degree of doctor in medicine, under John Babine, the elder. He now went to Kempen, where he practiced about eight years, but was at length invited to Zutphen, and made pensionary physician, and there continued to the end of his days. His works, which were in request in his time, are "Medicamentorum simplicium et facie parabolium ad icterum et hydropeum, catalogus, et quomodo iis utendum," Leid. 1590, 8vo. "De curandis venenis per medicamenta simplicia, et facie parabolica," Arnheim, 1612, 8vo. with others of a similar kind. "De novo quodam mortui generi, Filiis et Welfsbazat pecuniari," published in the works of Petrus Forelius. Haller, Bib. Med. Eloy. Dict. Hist.

Bra, in Geography, a town of Italy, in the principality of Piedmont, including 3 parish churches; 10 miles S. E. of Cargnolagni, and 2 N. W. of Cherasco.

BRAAN, a river of Scotland, which runs into the Tay, near Dunkeld, in the county of Perth.

BRAAWICKEN, or Bravicken, a gulf of East Gothland, on the west side of the Baltic sea, about 30 leagues S. W. from Stockholm, into which the river Motola discharges itself near the town of Nordkiopin.

BRABANCIONES, in Middle Age Writers, a kind of Netherland soldiers, infamous for rapine, being little better than commissioned banditti, who hired themselves to fight for any that could pay them belt.

The word is variously written by the historians of those days; all given them from the country of Brabant, which was the chief nursery of those troops. They are also frequently confounded with the Rotarii, Roturiers, Raptoria, Rotarini, Cetera, &c. Daniel. Hist. de la Mil. Fran. liv. iii. chap. 8.

Towards the close of the 12th century, when the government in all the states of Europe was relaxed, and it was almost impossible to enforce any general execution of the laws, troops of banditti under their denominations were emboldened to disturb the public peace, to infest the highways, to pillage the open country, and to brave all the efforts of the civil magistrates, and even the excommunications of the church, which were fulminated against them. Some of these troops were occasionally enlisted in the service of one prince or baron, and others in that of another; they often acted an independent manner, under leaders of their own; the peaceable and industrious inhabitants, reduced to poverty by their ravages, were frequently obliged to betake themselves to a like disorderly course of life; and a continual insidious war, pernicious to industry, as well as to the execution of justice, was thus carried on in the bowels of every kingdom. These mercenary ruffians formed a kind of society or government among themselves, which fet at defiance the reft of mankind. The greatest monarchs were not ashamed, on urgent occasions, to have recourse to their assistance; and as their habits of war and depredation had given them experience, hardihood, and courage, they generally composed the most formidable part of those armies, which decided the political quarrels of princes. Accordingly Henry II. enlisted numerous troops of them in his service; and the situation of
BRABANT, DUchy or, a province of the Netherlands, bounded on the north by Holland and Gelderland, on the east by Gelderland and the principality of Liege, on the south by Namur and Hainaut, and on the west by Flanders and Zealand. The circumference is estimated at about 50 leagues, and it contains twenty-six walked towns, besides several others of inferior importance; the principal cities are Louvain, Antwerp, and Bruxelles. It was first erected into a duchy in the 7th century, and formerly belonged to the Frankish monarchy; but it afterwards became a fief of the German empire. The last duke of Brabant, of the race of Charlemagne, was Otto, on whose death, in 1097, it came to Lambert I. count of Louvain, who married the sister and heirest of Otto. By his polity it descended to Philip II, duke of Burgundy; and from him in the line of his family to the emperor Charles V., and by him to Philip II. king of Spain. In the 17th century the republic of the United Netherlands took possession of the northern part of the duchy of Brabant, which it retained at the peace of Westphalia. This comprehended the quarter of Bois-le-Duc, (which fee,) and a part of the quarter of Antwerp. Charles III., afterwards known by the title of the emperor Charles VI., after the battle of Ramillies, in 1706, took possession of the Austrian part of this duchy, confining the town and quarter of Louvain, thesee of Bruxelles, and thesee of Antwerp. A small part towards the south was known by the name of Walloon Brabant. When the French passed the Rhine they established themselves in Brabant; and by the new partition of their territories and conquests, in consequence of the third article of the treaty of Campo Formio, in 1797, and the second of the treaty of Lunville, in 1801, which excised the Austrian Netherlands to the French, the eastern part of Brabant was formed into the department of Deux Nethers, and the southern part into that of Dyle. The air of Brabant is good, and its soil fertile. It produces a great quantity of flax, and is watered by several rivers, of which the chief are the Dommeil and the Dener, which, after receiving the smaller rivers of Ghute, Dyle, Seene, and Nethre, takes the name of Rupel, and discharges itself into the Scheld. The religion of this country is the Roman catholic. Mr. George Foster, who travelled through this country in 1799, gives a very unfavourable account of it. See his travels, vol. iii. In no place, he says, has ignorance ever established its dominion so firmly, nor diffused so palpably a darkness, as over the minds of the Brabanters; and nowhere has the iron yoke of implicit faith so deeply degraded the human understanding. Never, he adds, since they were deluged with blood by Philip and Alva, have these provinces attracted the notice of mankind, except when foreign armies made them the theatre of war, or when, like an absolute property they were transferred from one princely family to another. Nothing can be a greater proof of the stupidity and inoffensibility to which the people were sunk, than the indifference shown by the Brabanters, and the opposition made by the Flemings, to the design of the emperor Joseph II. to open the navigation of the Scheld. Indeed the picture which he gives of the decayed state of their manufactures, of the wealth and power of the church, of the insolent spirit of the nobles, and of the superstition which prevails among all ranks, is sufficient to convince us that the inhabitants of these countries were so exceedingly degraded by civil and religious tyranny, that they were become totally insensible to everything that can dignify human nature. Of the people, however, he observes, that their good qualities are their own, but that their faults are derived from their teachers. They are remarkably phlegmatic, but humane, good natured, and friendly; even amid the violence of passion, they are neither cruel nor implacable. The measures which Joseph II. concerted, however arbitrary in their first appearance, imprudent in their arrangement, and precipitate in their execution, were designed for restraining the power of the insolent priests, and for abolishing the greater absurdities of popery. But the insurrections occasioned by them, and the revolution in which they terminated, were attended with consequences which the people had reason to lament. By throwing off their allegiance to the emperor, they fell under a heavier yoke, and groaned under the most intolerable of all despotisms, that of an absolute arbitrariness. How far their condition has been improved since their country has been made a part of Belgium, by the extension of the French conquests, time must determine, and their own experience may clearly in some measure be able to testify. See Netherlands.


Species. B. Stellatifolium, (Syth. Nat.) Stellatifolium, (fp. plant.) Breyn. Cent. 1. pl. 1. Pluk. 457, pl. 265. La Mark, pl. 847. African almond. A native of the country about the Cape of Good Hope, where it grows to a tree of a moderate size, but in Europe it seldom grows above eight or nine feet high. Stem straight, short, full of pith, covered with a brown bark, throwing out horizontal branches at each joint, which gradually diminish from the bottom to the top so as to form a sort of pyramid. Leaves lanceolate, of a deep green on their upper, and a pale rufet colour on their under side, reticulated with a few blunt serratures at their edges, and growing in whorls on short peduncles, round the joints or knots of the branches, from five to seven in a whorl. Aments axillary, growing also in whorls, a little shorter than the leaves. The fruit is called, at the Cape of Good Hope, the wild chefnut, and is greedily eaten by the wild boars.

The foregoing generic character and description have been drawn up from a careful comparison of Linnaeus, Martyn, La Mark, and Boëc, who all agree in calling the brabeium
bein am amantaceous tree. But Linnaeus must have used the term in a lax and improper sense; he would otherwise have placed the genus in his natural order of amantaceae, and not among those whose natural character he deemed dubious. When La Mark wrote his description in the Encyclopaedia Methodica, he had in his possession only a dried specimen without flowers, brought to Europe by Sonnerat; he consequently described the fructification from preceding authors. Where he obtained the figure published afterwards, and how he would now describe the plant, is not known, the letter-per- to that part of the work not yet published; but certain it is that the fructification, as it is there delineated, has not the appearance of an ament. It corresponds much better with the following natural character by Jussieu. (The corolla of other authors.) Cal. small, four-cleft, at first constricted, afterwards rounded, the segments bearing the stamens at their base. Stamens, four, anthers oblong, attached to the inner part of the filaments. Style, one or two. Drupa, villose, one-seeded. Leaves (of the Theophrastus) nearly in whorls; flowers in axillary spikes, falcate, the falcace confiding of three or more flowers connected with a single bractea, (the scale of the ament, of other authors.) The calyx sometimes five-cleft, with five lalans, and a greater number of masculine flowers.

Whether what Jussieu calls B. theophrastus be a new species, we have not at present the means of ascertaining; but the information in La Mark's figure we should rather call a race more than a spike.

The Brachia capensis, Mantissa, 18, 157, is judged by Professor Martyn to be probably the same tree bearing hermaphrodite flowers. La Mark pronounces it to be so without hesitation. Bosc makes no mention of it, either under brachia, or in a separate article. Linnaeus says, that though it resembles the bracbea, its fructification is altogether different. His description of it in Mant. 1. is as follows: Banchetis, rigid, purplish, fringed, subvillose. Leaves, seven in a whorl, petioled, lanceolate, rather rigid, a hand's breadth long, smooth above, reticulated underneath. Petioles, erect, pubescent. Aments, oblong, cylindric, petioled, round, erect, lateral, often two within each leaf, shorter than the leaves, rather rigid, two inches long, imbri cate. Scales, ovate, acute, pubescent, many-flowered. Corolla, funnel-shaped, five-cleft. Stamens, five. Style, one.

Propagation and Culture. This tree is propagated in Europe only by layers, and that with difficulty. The layers should be made of the former year's shoots, and slit at a joint, as is practised in laying carnations. The best time is in April, when the plants are beginning to shoot; but they will often be two years before they produce roots strong enough to be taken from the old plants. They must have little water given them, especially in winter. The plants must be placed in a good greenhouse in winter, but in summer should be set abroad in a sheltered situation. See Martin's Miller's Dict. The bracbea does not occur in the Hortus Kewensis.

BRABERUTUS, or BRACERUTUS, formed from Bracerus, prize, or reward; in antiquity, an officer who presided at the public games, and decreed the prizes to the victors. The Latins called him Praepositus, and munenarius. The generalness of writers confounds the bracereus with the agonotheta, between whom there however appears to have been this difference, that the former presided at the gymnastic combats, the latter at the sacred ones. The number of bracereus was not fixed; sometimes there was only one, but more commonly there were nine or ten.

BRACONIACUM, in Ancient Geography, a place of Britain, mentioned in the Nautica Imperii, and supposed by Mr. Horley to be the same with Bremetonicus.
clothing, and born in 1382, at Terranuova, a small town of the republic of Florence, not far from Arezzo. Deriving from his father no hereditary advantages of rank or fortune, he fought eloquence and dilution in the cause of literary pursuits. Having acquired a competent knowledge of the Latin and Greek languages at Florence, where his studies were directed by Manuel Cryoforos, he removed to Rome about the year 1402; and here his literary reputation introduced him to the notice of Boniface IX., who took him into his service, and promoted him to the office of writer of the apostolic letters. At the period immediately preceding the admission of Poggio into the pontifical chancery, the Italian states had been convulsed by war and faction; but a treaty having been concluded, just before his arrival, between Boniface and the Florentine republic, the Roman court, relieved from its distraction and anxiety, was become a scene of luxury and dissipation. Poggio, however, relished the temptations which presented themselves to his lively fancy and ardent constitution; and as the emoluments of his office afforded only scanty means of gratification, he devoted himself the more avidly to the prosecution of his studies, and to the cultivation of an acquaintance with those whose conversation might lead to the improvement of his mind. Literary pursuits were now become fashionable, and the character of the scholar was often found united with that of the man of the world. To this circumstance it is natural to ascribe the union of learning, politeness, and knowledge of the human heart, which shines so conspicuously in the writings of Poggio. In 1404 he sustained a considerable loss by the death of his patron, Boniface; but his distinguished merit recommended him to the favourite notice of the successor to the papal see, Innocent VII.; who continued him in his office, and treated him with particular kindness and respect. During the distractions of the Roman court, which succeeded the death of Innocent in 1406, Poggio exchanged the intrigues and dissensions of the pontifical palace for the tranquil delights of friendship, which he enjoyed at Florence in the society of its literary acquaintance, and particularly in the patronage and cordial esteem of the celebrated Niccolo Niccoli. He seems, however, to have retained his situation in the pontifical chancery; and having acted as apostolical herald to Alexander VI., he occupied the same office in the household of John XXII., that pontiff's succesor. At the council of Constance, in 1415, the death of Manuel Cryoforos, the instructor of his youth, gave him an opportunity of celebrating his praises in a funeral oration, and of dedicating to his memory an appropriate and elegant Latin epitaph. Upon the deposition of John at this council, and the consequent disfigurement of the pontifical household, Poggio remained at Constance, and employed his intervals of leisure in studying the Hebrew language, under the direction of a Jew who had been converted to the Christian faith. But in this language he seems to have made no great progress; nor, indeed, was he desirous of profusing himself, by a knowledge of the oriental tongues, with the weapons of religious controversy. As he was not disposed to call in question the prevailing creed, he was inclined to think that St. Jerome's translation of the Jewish Scriptures was amply sufficient for all the purposes of his Christian faith. Biblical studies seem not to have suited his taste and inclination; and therefore his proficiency in them was not very considerable. The vigour of his mind might likewise have suffered some relaxation from the precariouslyness of his situation, and the gloomy and disquieting prospects which presented themselves with regard to his future preferment. Finding no amelioration in varying or extending his literary pursuits, he altogether suspended his studies; and in the spring of the year 1416, he availed himself of the leisure afforded him, by the termination of his functions as secretary to the deposed pontiff, to make an excursion to the baths of Baden. On his return to Constance he was present at the trial of Jerome of Prague; and of this trial and the last end of Jerome he gave a very circumstantial and interesting account, in a letter to his friend Leonardo Aretius. "He stood undaunted and intrepid," says Poggio, "not merely contending, but, like another Cat he, longing for death. He was a man worthy to be had in everlasting remembrance. I do not commend him for entertaining sentiments hostile to the constitution of the church: but I admire his learning, his extensive knowledge, the gravity of his eloquence, and his ability in reply. But I am afraid that all these endowments were bestowed on him by nature, in order to effect his destruction." He thus concludes: "He may have been heretical in his notions, and obdurate in perverting them, but he certainly died like a philosopher. I have relented a long life, as I wished to employ my leisure, in relating a transaction which furphases the events of ancient history. For neither did Mutius suffer his hand to be burnt for patiently as Jerome endured the burning of his whole body; nor did Socrates drink the hemlock as cheerfully as Jerome submitted to the fire." The feeling manner in which he describes the trial and execution of Jerome, evinces a heart, which daily intercourse with bigotted believers and licentious hypocrites could not deaden to the impulses of humanity. The man, indeed, whose he took in the fate of a man, who was held up by the church as an object of unqualified abhorrence awakened the fears of Leonardo on his account; and he advised him to exercise a greater degree of caution. During the vacancy of the pontifical throne, Poggio improved his leisure by an expedition of so small importance to the interests of literature. Having received information that many ancient MSS. of classic authors were scattered in various monasteries, and other repositories in the neighbourhood of Constance, he determined to rescue them from the hands of those who, ignorant of their value, were sufferiing them to perish. In the monastery of St. Gall he found, among other MSS., a complete copy of Quintilian, buried in rubbish and dust; and also the three first and one half of the fourth books of the Argonatique of Valerius Flaccus, and Aenonianus Pidanius's comment on eight of Cicero's orations. In a monastery of the monks of Cluny, in the town of Langres, he found a copy of Cicero's oration for Cæcina; and in his other researches he discovered the following orations of the same author, the loss of which had been long deplored by the learned; viz. "De lege Agraria contra Rullum, lib. I. et lib. II.;" "De Agr. leg. Agr. ad populum;" and "In L. Pisonem." A copy of these orations is preserved in the abbey of Sta. Maria at Florence, with a memorandum ascribing the discovery of this and also of three others, viz. "Pro C. Rabirio Pisonfo;" "Pro C. Rabirio perduellionis reg.;" and "Pro Rufco comadeo," to Poggio; but the three last are torn from the volume. To him also, in concurrence with Bartolomeo di Montepelecano, we are indebted for restoring to light the poem of Silius Italicus, Lactantius's treatise, "De ira Dei et opificio hominis," Vegetius "De Re militari," Nonius Marcellus, Ammianus Marcellinus, Lucrécius, Columella, and Tertullian. Poggio likewise added to the eight comedies of Plautus, known before his time, twelve more; and by the affability of his own researches, and those of others employed by him, he discovered a fragment of Aulus Gellius, a copy of Julius Frontinus, "De aquæductis," and eight books of Firmicus's treatise on the mathematics. From Cologne he procured the fifteenth book of Petronius Arbiter; and to his exertions we owe
ew the entire work of Columella, the preservation of Calpurinus’s Bucolic, and the recovery of the works of Manilius, Lucius Septimius, Cæper, Eutychius, and Probus.

After the deposition of John XXII, Poggio remained for some time in suspense with regard to his future destination; and it does not appear that he held any office under Martin V, who was elected to the papal see, although, after the dissolution of the council of Constance in 1418, he travelled in the suite of the new pontiff to Mantua. At this time he paid a visit to England, in consequence of an invitation from Beaufort, bishop of Winchester; but disappointed in his expectations of preferment, adequate to his views and wishes, he impatiently waited a favourable opportunity of returning to his native country.

At length, viz., in 1420, when the diffusions respecting the pontificate were finally settled, and Martin V. was recognized as the true successor to the papal throne, Poggio arrived at Rome, and accepted the office of secretary, to which he was recommended by the cardinal of St. Eufebius. A quarrel having taken place between his two friends Leonardo Aretino and Nicolò Niccolò, he interposed as mediator, and succeeded in accomplishing a reconciliation. In 1429 he availed himself of an interval of tranquillity, in presenting to public notice his first literary production, which was a “Dialogue on Avarice,” and which seems to have possessed considerable merit. In this dialogue he took occasion very severely to satirize those Christian friars, who were distinguished by the title of “Fratres Observantiae,” a new order founded by Bernardo di Siena. This was followed, at a more advanced period of life, by a “Dialogue on Hypocrisy,” a composition which abounds in the keen sarcasms of polished wit, and in acute observations on the human character. In both these dialogues he boldly expresses the contempt he entertained for those ecclesiastics, who adopted the religious habit as a convenient cloak for the concealment of indolence or luxury; and who, by the mere appearance of extraordinary sanctity, endeavoured to attain that worldly honour which at the same time they affected to despise. The freedom with which he exposed the vices not merely of individuals, but of whole classes of religious hypocrites, manifested a great degree of virtuous resolution, and merited no mean praise. After the accession of Eugenius IV. to the papal throne, a contenc occurred between him and the council of Balli, which terminated in the deposition of the pontiff, and his flight to Florence; and Poggio, in attempting to follow him thither, was captured, and for some time detained in confinement. However, by the payment of a ransom, which his pecuniary circumstances rendered very oppressive, he was set free, and finally accomplished his retreat to Florence. During his residence in this city, he had an opportunity of telling his ardent attachment to the humble of Medicis, by entering into a literary contest, or rather a kind of lampoon war, with Filippo, an avowed enemy of that family, in which they seem to have vied with each other in inventing falsehoods of the most atrocious kind, and in disgracing their pages by the most malicious and indecent calumnies. This contest between two of the most learned men of the age was conducted in a manner, which, however it may have contributed to the amusements of their contemporaries, entails lasting disgrace on both parties, in the judgment of posterity. Poggio, soon after the termination of this contest, determined to fix his permanent residence in the Tuscan territory, and with this view he purchased a villa in the pleasant district of Valdarno. The Tuscan government favoured his purposes of retirement, and passed a public act, which exempted him and his children from the payment of all public taxes.

Poggio’s fortune was inconsiderable; but he contrived to render his humble mansion an object of attention to the lovers of the liberal arts, by the treasures of his library, and by a small collection of statues, which he dispersed in such a manner as to constitute a principal ornament of his garden, and the appropriate furniture of an apartment which he intended to dedicate to literary conversation. His attention seems to have been long engaged by the study of ancient sculpture; nor was he left unfruitfully in returning its relics from obscurity, than in searching for the best writers of antiquity. With this view he made a diligent survey of the ruins of ancient Rome, and inserted in the proemium to his dialogue, “De Varietatibus Fortunae,” a catalogue of the relics of Roman architecture, which has been introduced by Mr. Gibbon in the 7th chapter of his “Decline and Fall of the Roman empire.” Poggio’s researches extended beyond the precincts of Rome, and his zeal for the restoration of the monuments of ancient sculpture induced him to visit Crypta, Ferrata, Tufulum, Ferentum, Alba, Arpinum, Alatrium, and Tiburtum; and by means of friends he directed his researches to Rhodes, Greece, and other countries. While he was engaged in collecting ornaments for his rural residence, he was employed at the request of a friend, Scipio of Ferrara, in composing a dissertation on the comparative merits of Cæsar and Scipio; which he closed with the following general statement of his opinion, “that the youth of Scipio was distinguished by the purest morals, whilst the early years of Cæsar were rendered infamous by his vices; that the former, inspired with the spirit of patriotism, by his splendid military achievements refuted his country from destruction; and that the latter, prompted by ambition, too successfully exerted his extraordinary talents to effect the subversion of the commonwealth: that consequently, whilst Scipio was by no means inferior to Cæsar in the fame of his military exploits, he was greatly his superior in virtue, which alone constitutes the character of a truly great man.” Soon after the termination of a controversy which this publication occasioned, an event occurred which, in all the circumstances that attended it, reflects no great honour on the character of Poggio. At the age of 55, he married a young lady of a wealthy and honourable family in her 18th year; and to this alliance he sacrificed a mildness, by whom he had had 12 sons and 9 daughters, and, moreover, set aside a bull of legitimacy which he had procured for them, in order that they might be enabled to inherit his fortune. Not long after this event, in 1437, his friend Niccolo Niccolò died; and Poggio composed and published his funeral eulogium, in which are several traces of eloquence and pathos. Although Poggio devoted much of his attention to domestic duties, and to the improvement of his Tuscan villa, he found leisure to renew his disgraceful literary contest with Filippo; and to compose a work, which redounded much more to his honour, entitled “A Dialogue on Nobility,” and published in 1440. This was followed by his “Dialogue on the unlamented princes,” in which he dwells with so much energy on the vices of exalted rank, as to afford room for supposition, that resentment and indignation had at least as much influence in its composition as the suggestions of philosophy. However, the effusions of malignity that occur in this dialogue are interposed with precepts of found morality, and the historic details with which it abounds are both entertaining and instructive.

In 1444 he left Leonardo, the sole surviving companion of his youthful years; and on this occasion he published a funeral oration, which was at once dignified and pathetic.

Poggio, though he had held the office of apostolic secre-
tary under seven pontiffs, had never been promoted to any of the desired departments of the Roman chancery. But when Nicholas V. ascended the pontifical throne, his prospects were brightened; and he indulged the hope of spending the remainder of his days in a state of independence, if not of influence. With a view of improving his interest with the new pontiff, he addressed to him a congratulatory oration, which was recomposed by very liberal presents. This was succeeded by a defunct epistle, introducing to his patronage a dialogue: "On the vicissitudes of fortune," and the most interesting of Poggio's works, and inculcating maxims of sublime philosophy, enforced by a detail of splendid and striking events. Confiding in the pontiff, he also published the dialogue: "On hypocrisy," already mentioned. At the request, and under the patronage of Nicholas, he also contributed to the illustration of Grecian literature, by a Latin translation of the works of Diodorus Siculus, and the Epitome of Xenophon. During the plague, which raged in various parts of Italy in 1450, Poggio visited the place of his nativity; and availing himself of this interval of relaxation from the duties of his office, he published his "Libri Facetarum," or collection of jocose tales, containing anecdotes of several eminent persons who flourished during the 14th and 15th centuries. This work acquired a considerable degree of popularity, and was read, not only in the native country of its author, but also in France, Spain, Germany, and Britain. In 1451 he dedicated to the cardinal Prosper Colonna, his "Pictor's delectative con- vivalia." In 1453 Poggio was elevated to the chancellorship of Florence, and at the same time, he was chosen one of the "Factor dignitatis," or presidents of the trading companies. These offices he held till his death, which happened on the 30th of October, 1456. Notwithstanding the multiplicity of his business, and the advance of age, he pre- cipated his studies with his accustomed ardour; and published a dialogue: "De saecularis humanae conditionis," and a version of Lucian's: "Alex," with a view of establishing a point of literary history, which seems to have been till that time un- known, namely, that Apollonius was indebted to Lucian for the fancies of his: "Amus aures." The last literary work in which he engaged, was his "History of Florence," divided into eight books, and comprehending the events in which the Florentines were concerned from the year 1355, to the peace of Naples in 1455. This history was trans- lated into Italian by Jacopo, the son of Poggio; but the original was published by Recanati, and has been republished in the collections of Gravina and Muratori. Poggio concluded his career in the possession of universal respect, and in the tranquil enjoyment of local and domestic comforts. His remains were interred with solemn magnificence in the church of Santa Croce at Florence; and his fellow citizens paid him their respect for his talents and virtues, by erecting a statue to his memory on the front of the church of Santa Maria del Carmine. As the citizen of a free state, which he deemed a high honour, he improved every opportunity that occurred for increasing and displaying the glory of the Tuscan republic. Although he was honoured by the favour of the great, he never sacrificed his independence at the shrine of power, but uniformly maintained the ingenuous sentiments of freedom. The licentiousness which disfigured the early period of his life, and the indecent levity which occurs in some of his writings, were rather the vices of the times than of the man; nor did they deprive him of the counte- nance of the greatest ecclesiastical dignitaries, or cause him to forfeit the favour of the pious Eugenius, or of the moral and accomplished Nicolas V. To those with whom he main- tained a personal intercourse, he recommended himself by the urbanity of his manners, the strength of his judgment, and the sportiveness of his wit. As a scholar, Poggio is entitled to distinguished praise. By affuluous study, he be- came a considerable proficient in the Greek language, and intimately conversant with the works of the Roman classick authors. In selecting as his exemplar in Latin composition, the style of Cicero, he manifested the discernment of true taste. When compared with the works of his immediate predecessors, the writings of Poggio are truly affluishing. "Rising to a degree of elegance, to be sought for in vain in the rugged Latinities of Petrarca and Coluccio Salutati, he prepared the way for the correctness of Politiano, and of the other eminent scholars whose gratitude has reflected such splendid lustre on the character of Lorenzo de' Medici." Shepherd's life of Poggio Bracciolini. 4to. 1603.

BRACE is commonly taken for a couple, or pair; and in this sense is applied to huntingmen to several beasts of game; as a brace of bucks, foxes, hares, &c. They also say, a brace of greyhounds.

Brace, in Architecture, denotes a piece of timber framed in with bevel-joints; serving to keep the building from swerving either way. When a brace is framed into a king-piece, or principal rafter, it is called by some a frut.

Brace, Bracchio, or Brasse, in Meatal joinery, denotes a foreign long measure, answering to our fathom.

Brace is also used for a measure taken from the length of the arm when extended, and is used in divers cities of Italy, in lieu of the foot or yard. Its length is various: the brace of Bergamo, according to Seamozzi, is nineteen Paris royal inches, and a half; according to M. Petit, fifteen inches two-thirds; the brace of Bologna is fourteen inches; that of Dreffe, seventeen inches seven lines and a half, according to Seamozzi; and according to M. Petit, seventeen inches five lines; the Mantuan brace is seventeen inches four lines; that of Milan, twenty-two inches; those of Parma, twenty inches one-third; of Sienna, twenty-one inches two-thirds; of Florence, twenty inches two-thirds, according to Maggi; twenty-one inches four lines and a half, according to Lorini; twenty-two inches two-thirds, according to Seamozzi, and twenty-one inches one-third, according to Picart.

Brace, in Writing, a term used to signify a crooked line, (as I) made at the end of two or more articles in an ac- count, the amount of which is usually placed in the centre of the brace. It is also used in printing, to enclose an entire paragraph in a triplet, &c.

Brace the yards in, in Sea-language, signifies to move them, by means of the braces, to any direction required. To brace about, is to brace the yards round for a contrary tack. To brace fipg, is to brace the yards in a position, in which they will make the least possible angle with the keel, for the ship to have head-way. To brace in, is to safe off the lee- braces, and round-in the weather braces, to assist the motion of the ship's head in tacking. See the next article.

Brace, a rope at each extremity of all the yards of a ship, except the mizen yard, which is provided with ropes called rangs, for the purpose of bringing the yard in a proper position, that the sail may be full, whether the ship is lying, or large. All braces ought, if possible, to lead aft, for the greater security of the masts; in ships, therefore, the braces of the yards belonging to the fore and main-masts lead ast; but in square-rigged vessels with two masts, those, only, of the yards belonging to the foremost, lead ast. The braces of the yards of the after- mast of a square rigged vessel, lead forward. The braces of the principal yards are double, being recived through blocks,
blocks, at the ends of the yards, or at pendants fixed to the yard-arm. The braces of the top-gallant, and sprit-fall yard-arms, are angles.

BRAIDED, in Heraldry, is used in speaking of chevronnels which are intermingled. He bears a chief or, and these chevronnels braided, in the base of the escutcheon, by the name of Five-High. See Braid.

BRACELET; an ornament usually wound round the wrist. The word is French, bracelet; which Menage derives farther from bracteatum, a diminutive of bracte, a word occurring in writers of the Julian time; all formed from the Latin brachium, arm. It amounts to the same with what was called by the ancients, armilla, brachiale, eccetus; in the middle ages, boga, boga, armpepta.

Among the ancient Romans, the men as well as the women wore bracelets; but the latter, it is to be observed, never wore them till they were betrothed.

In the times to which the Scripture history refers us, the bracelet seems to have been an ensign of royalty; and this accounts for Saul's wearing this ornament at the time of his death, and for the Amalekite's bringing the bracelet which he found on Saul's arm, together with his crown, to David. 2 Sam. i. 10. It is well known, that the bracelet has been at such later times used in the East as a badge of power. D'Herbelot informs us, that when the caliph Caicm Bemrnillah granted the investiture of certain dominions to an eastern prince, which his predecessors had possessed, and among the rest of the city of Bagdad itself, this ceremony of investiture was performed by the caliph's sending him letters patent, a crown, a chain, and bracelets. Although Grotius, referring to Num. xxxxi. 50, observes, that the bracelet was an ornament used by the men as well as women of those nations; yet it does not seem to have been so common as some writers have supposed: for though the word bracelet frequently occurs in our translation, the original word in this text is found only in two other places; and as the children of Israel found one or more of these bracelets among the spoils of Midian, so they killed, at the same time, five of their kings. Num. xxxiii. 8. In the other passage, if. ii. 20. mention is made of female ornaments; but allowing the word to be the same, might not the women of that age wear an ornament which, from its likeness to one of the ensigns of royalty, might be called by the same name. We read in Gen. xxiv. 22. that the bracelets of Rebekah weighed ten shekels, or about five ounces; a weight which some have thought to be very extraordinary. But Sir John Chardin affirms us, that ornaments so heavy, and even heavier, were worn by women of the East when he was there. He says, with a reference to the ornaments of Rebekah, that the women wear rings and bracelets as of great weight, through all Asia, and such as are much heavier. They are rather much heavier than bracelets. There are some as large as the finger; the women wear several of them, one above the other, in such a manner as sometimes to have the arm covered with them from the wrist to the elbow. Poor people wear as many of glass, or horn. They hardly ever take them off; they are their riches.

Bracelets were at first properly military ornaments or rewards, frequently conferred among the ancients, by generals and princes, on those who behaved gallantly in fight. They became afterwards arbitrary decorations, affixed at pleasure; and are sometimes said to have been worn for health as well as ornament; and particularly as amulets, to break the force of charms and incantations. Among the Romans, we meet with divers species and denominations of bracelets; as the bracchalis, which covered the whole length of the arm; the destralis, or destruxherium, only the wrist, and that only of the right arm; viria, or circlet, peculiar to the male sex; spinulum, to the women, being worn on the left arm; corvus, used as an amulet; amphibolus, worn either on the arm, or about the neck; calicium, or galerum, worn by generals in their triumphs. Luc. Lex. Ant. tom. i. & ii. Du-Cange. Gloss. Lat. tom. i. & ii. Renart. Rom. Ant. Not. V. II. hist. iv. cap. 16.

Bartholin has a treatise on the bracelets of the ancients. The northern people used also to wear on their bracelets, to render contracts more inviolable.

Bracelets are still much used by the savages of Africa and America, made of meat, glasses-beads, shell, and the like. In civilized countries they form a common part of the ornaments of the ladies.

BRACELET is also used, in Anatomy, to denote the circular ligament which invests the corpus, called also ligamentum annulare.

BRACELETS; in some Ancient Law Books, denote beagles, or bounds of the smaller kind.

BRACES, in Geography, are two sand-banks lying across the entrance into the channels for the river Hugli, at the bottom of the bay of Bengal.

Braces, in Ship building, that security to the rudder which is fixed to the stern-pole, and bottom of the ship, and to which the rudder is hung.

Braces of a couch, denote the thick and strong strips of leather on which it hangs.

BRACHERIUM, or BRACHERIOLUM, a kind of fleri bandage worn about the hips, and used for the retention and cure of ruptures. Du-Cange Gloss. Lat.

BRACHIAEUS, or BRACHIALIS, internus, mufculus, in Anatomy, is the deeper situated flexor of the elbow joint. It arises fleshy from the middle of the os brachii, and from all the lower and fore part of the bone. It crosses over the joint, and adheres firmly to the ligament. It is invested by a fibrous ftring joining the coronoid processes of the ulna. Its use is to bend the fore arm, and to prevent the capitule of the joint from being pinched.

BRACHIALIS, coraco. See NERVES.

BRACHIALIS, coraco. See CORACO-BRACHIALIS.

BRACHIATE, in Botany, a term applied to branches when they grow opposite to each other, one on each side of the stem, and when each pair points in a different direction so as to make a right angle with the pair above or below it.

BRACHIOBOLUS, a name given by Allioni to a genus of plants formed for such species of sisyphrium as have a short spike. It corresponds with Haller's radica. See SYDRERMUM.

BRACHIUM, in Ancient Geography, Gerba, an island in the Mediterranean sea, situate on the coast of Africa, 15 leagues S. E. of Tazacor. Scylax.

BRACHIONUS, in Zoology, a genus of Vermes infusoria, having the body contractile, covered with a shell, and furnished with ciliate rotatory organs at the head. The species of this genus Linnaeus includes in his genus Veritcula, from which they are distinguished by modern naturalists by the spiny covering of the body; the vorticella being definite of a shell.

The species of this genus are urceolariis, patella, irus, cirratus, tripus, uncinatus, muronatus, cernua, calyciflorus, tubificz, quadridentatus, and patina, which see.

BRACHIPE, in Ecclesiastical History, a branch of Manichees, who appear in the third century.

BRACHIUM, the arm. in Anatomy, is that part of the upper extremity which intervenes between the joints of the shoulder and elbow.

BRACHIUM,
BRACHIA.

**Brachium** in Botany, a term employed by Linnaeus as a measure of plants. It denotes the distance from the summit to the base of the middle finger in a middle-sized man, and is about 24 inches.

**Brachium versum fauculis,** in Anatomy, a name given by Vesalius, and other of the old writers, to the muscle now generally called deltoid.

**Brachium ventriculi quinste,** the name by which Vesalius calls the muscle generally known under the name of *trunci falcis.* Fallopius, and many others, have also called it *fascia humeri.*

**Brachium inferius,** a name given by Vesalius and others to a muscle since called, from its shape, *tector major,* and *rectus major.*

**BRACHYURE,** in Zoology, an epithet given by the French naturalists to many animals that have short wings, the word being derived from the Greek as in Brachypus, e. c.

**BRACHYERCHE, FRISCH,** in Ornithology, *Alauda campstris,* the meadow lark.

**BRACHMANS,** a branch of the ancient Gymnosophists, or philosophers of India, remarkable for the severity of their lives and manners. See Gymnosophist.

The Greeks usually give them the name Gymnosophists; but among ancient authors, both Greek and Latin, we find different accounts of these Indian sages. Ptolemy considers them as distinct from the Gymnosophists; and he places the Brachmans, whom he calls Magi, in a southern district of India, between the rivers Solanus and Chaberus, not far from the sea; whereas he assigns to the Gymnosophists a situation in the north-eastern part of that country, near the western bank of the Ganges. On the other hand, Megasthenes, cited by Strabo, (Geog. tom. ii. p. 1938) affirms, that the Gymnosophists were divided into two branches or sects, viz. the Brachmans and the Germans. Diodorus Siculus, in one place, represents the philosophers of India, who were the Brachmans of Megasthenes, as equivalent to the priests of other nations; but, in another passage, he considers them as a separate nation, sect, or body of men, settled in one particular part of India. Arrian (De Expd. Alexand.) fixes the Brachmans among the Malni and the Mucceani; and Pliny, (Nat. Hist. 1. 6. c. 17.) says the appellation Brachman was applied to many nations, and intimates, that it did not denote a distinct class or order in society. Porphyry (De abstin. I. 4.) affirms, that the Gymnosophists were divided into two sects, the Brachmans and the Sarmatians; and that of the Brachmans, some lived in a mountainous tract, and others about the Ganges. Arrian, Anuleius, Clemens Alexandrinus, and Plutarch, differ in several particulars relating to these Indian sages; though they all seem to agree in celebrating their love of divine wisdom, their knowledge, their abstemious way of life, their singular temperance, and their contempt of all the good, as well as evil things of this world, so much defied or dreaded by the bulk of mankind. Upon the whole, it seems to be evident from various records, concerning the ancient Brachmans, that they were not so much a distinct nation, or particular class of philosophers, as a tribe or body of men, or rather a numerous family, descended from one common ancestor, who existed at some remote period, and who was different from the progenitors of the people among whom they lived. They deduced their origin from Brahma, the first of the three beings whom God created, and whom he afterwards employed as his agents in forming the world. Some have supposed that this Brahma was the supreme being; but others have rejected this supposition as absurd and incredible. It has been a generally received opinion among some of the best Jewish writers, adopted by Sherefan, an Arabian author of great repute, and sanctioned by the authority of the learned Dr. Hyde (De rel. ver. Pers. p. 343.), who has offered some ingenious conjectures in defence of this notion, that the progenitor of the Brachmans was the patriarch Abraham, whom in their language they call *brahma, or brama.*

Polellus (In comm. ad Jezeb.) takes these Brachmans to have been descended from Abraham by his wife Keturah, whence he calls them *Abrahamites;* and believes that the true religion prevailed among them; and, indeed, from the accounts given of them by the ancients, it seems to appear, that they acknowledged one supreme being, and a future state of rewards and punishments. It also farther appears, that some of them worshipped this supreme being with great fervency and adoration, spending the greater part of the day and night in singing hymns in honour of the deity, praying and fasting almost incessantly, and defiling every thing in this world for his sake. Hence, some have derived their name from the Hebrew *bra-* or *pray,* because this was their principal occupation. Most of them lived in solitude, without marrying, or polluting any effluvium: and from this circumstance of their retiring into the country and living in deserts, P. Thomassin deduces the original of the appellation by which they are distinguished; supposing it to have been derived from the Hebrew *bra-* or *pray,* or *sigh.* These Brachmans, according to the accounts of Arrian and Porphyry, were held in great veneration in their own country, enjoying perfect liberty and total exemption from taxes, and officiating, not only as the priests of the Indians, but likewise as the principal councilors of their princes. Thus they served their country, both in a civil and religious capacity, as the Magi did among the Persians. They affixed at the public sacrifices; and if any person desired to sacrifice in private, one of them must be present, otherwise the Indians were persuaded they would not be acceptable to the Gods. It was their peculiar province to consult the Rasa, and to practice divination. According to Strabo's account, they believed that the world had a beginning, and that it will have an end; that its form is circular; that it was created by God, who presides over, and fills it with his majesty; and that water is the principle of all things. With regard to the immortality of the soul, and the future punishment of the wicked, they followed the doctrine of Plato; intermixing it, like that philosopher, with some fictions, in order to express or describe those punishments. The Brachmans are celebrated all over the ancient world for their wisdom, the austerity of their lives, and their invincible fortitude and patience. Their food consisted altogether of herbs, roots, and fruits, and their drink was water. They wholly abstained from the flesh of animals, and thought themselves defiled by touching them; they thought it highly criminal to deprive the most inconsiderable animal of life; and as they held the doctrine of the Metempsychios, they supposed that the souls of men transmigrated into those of brute animals. Pythagoras is said to have studied their doctrine and maners, and to have received his notion of the transmigration of souls, or Metempsychios, from them. Persuaded that it is below the dignity of a man to wait calmly for death, when he finds himself oppressed by age or afflictions, they carelessly with for the moment when the soul shall leave the body, and hold it to be glorious and laudable to preclude the approach of their last hour, and to burn themselves alive. Among them, no honours were paid to those who died merely of old age; and they conceived, that their funeral pile, and the fire that was to reduce them to ashes, would...
be polluted if they did not move to it with a firm and
quick step, and ascend it with fortitude and animation.
Cicero, in his Tusculan Questions, (I. v. n. 78.) expresses
his admiration of the invincible patience, not only of the
Indian fages, but also of the women of that country, who
used to contend for the honour of dying with their common
husband. This privilege was reserved for that wife to
whom the husband was most affectionately attached; and
it was decided in her favour by the sentence of persons ap-
pointed for that purpose, who never pronounced judgment
until they had made a strict examination, and heard the alle-
gations on all sides. The wife, who was ultimately pre-
ferred, ran to meet death, and ascended the funeral pile
with incredible firmness and joy; whilst the surviving wives
withdrew with the most deprewing regret and sorrow, and
with their eyes bathed in tears. Some of the Brahmans,
however, lived in cities, and associated with their own spe-
cies; and so far from confederating suicide, or a premature
surrender of themselves to death, as a virtuous and brave
action, they looked upon it as a weakness in man not to
wait patiently the stroke of death, and as a crime to antic-
unate the will of the Gods. The Brahmans were all of one
tribe; and in this respect, they differed from the Gymno-
osophists, and particularly from the Sammanans, who might
have belonged to any family or Indian tribe. They formed
the first and principal of the four castes that subsisted
from time immemorial among the Hindoos, and that were sup-
posed to be derived from Brahma. See CAST.

In ancient times it should seem, that the Brahmans were
not hereditary, or a distinct Levitical tribe; but that any mem-
er of the other castes might enter into this order, which was
of course deemed inferior to the chief secular or military cast.
But in latter times the caste has been very different; for
the meanest Brachman will not now condescend to cat with his
sovereign. The Brahmans from the time of their birth
were put under guardians; and as they grew up, had a
succession of instructors. They were in a state of pupillage
till 36 years of age; after which they were allowed to live
more at large, to wear fine linen and gold rings, to live upon
the flesh of animals not employed in labour, and to marry
as many wives as they pleased. Others of them submitted,
through their whole lives, to a stricter discipline, and passed
their days upon the banks of the Ganges, with no other
food besides fruits, herbs, and milk. The rigours practised
by the Brahmans are almost incredible, and would hardly
be believed, if they were not attested by the best authorities,
and by the reports of modern travellers concerning the cru-
culies, penalties, and even tortures, which are commonly
practised without scruple by the Indian Brahmans. Pliny
relates, (N. H. l. vii. c. 2.) that some have fixed with their
eyes steadfastly upon the sun from morning to night,
and that others have remained, in one and the same painful
posture, upon the burning sands, for whole days. For a
further account of the tenets and practices of the ancient
Brahmans, see Gymnosophists and Samanians.

Among those Brahmans, that are mentioned with parti-
cular respect by the Greek writers, who treat of the time
when Alexander visited India, and particularly by Strabo,
(geog. l. 14. c.) are Mandanis and Calmanis. The former is
celebrated for the boldness with which he cenured the in-
temperance and licentiousness of Alexander and his army,
in a conference which he held with Onefericus. The latter,
when he saw Alexander’s messengers clothed with fine linen
garments and elegantly adorned, laughed at their effemi-
nity, and requested them, if they wished to hold any con-
ference with the Brahmans, to lay aside their ornaments,
and, like them, recline naked upon the rocks. Of him, it
is also related, that when he found the infirmities of age
coming upon him, he devoted himself to voluntary death,
and ascending the funeral pile, said, “Happy hour of de-
parture from life, in which, as it happened to Hercules, af-
aer the mortal body is burned, the soul shall go forth into light!”

The modern Brahmans of Hindostan derive their name
from the ancient Brachmans, and pretend to derive their
doctrine and practice from the same origin. In sever-
ral particulars, the resemblance is manifest; and although
much inferior, both as philosophers and men of learning,
to the reputation of their ancestors, as priests their reli-
gious doctrines are still followed by the whole nation,
and as preceptors they are the source of the greatest part of
the knowledge which exists in Hindostan. However, Sir
William Jones, and several other intelligent authors on that
subject, caution us against confounding the ancient Brach-
man with the modern Brahmans. The religion of Bouddha,
(see Boou and Birman empire,) still retained by the
Birmans and other adjacent nations, it is said, was the real
ancient system of Hindostan; but the artful Brahmins have
introduced into it many innovations, in order to increase
their own power and influence. If the conjectures of Sir
William Jones, relative to the inscriptions found at Mon-
guerto, and on the pillar at Buddha, (Asian Researches, vol. i.
p. 123, &c. 8vo.) be well founded, it appears that the
governing power on the banks of the Ganges, as late as
about the time of the birth of Christ, belonged to the feft
of Bouddha. Although the Brahmans had then introduced
themselves into Hindostan, and had obtained lands, and
even the rank of prime minister to the great Rajah; they had
not persuaded him to change his religion, a change which,
when accomplished (says Dr. Buchanan, Asiatic Ref. vol. vi.
p. 165.) proved equally destructive to the prince, and to
the people. He adds, “however idle and ridiculous the
legends and notions of the worshipers of Bouddha may be,
they have been in a great measure adopted by the Brahms,
but with all their defects monstrosly aggravated: rajaks
and heroes are converted into gods, and impossibilities are
heaped upon improbabilities. No useful science have the
Brahmans diffused among their followers; history they have
totally abolished; morals they have deprewed to the nm-
most; and the dignity and power of the altar they have
erected on the ruins of the state, and the rights of the sub-
ject. Even the laws attributed to Menu, which, under the form
in use among the Burmas, are not ill suited for the purpose
of an absolute monarchy; under the hands of the Brahms
have become the most abominable and degrading systen
of oppression, ever invented by the craft of designing men.”
From the account which Mr. William Chambers has
given of the sculpture and ruins at Malavipurum, (Asiat.
Ref. vol. i. p. 160, 161.) we have very good reason for
believing, that the worship of Bouddha once extended
over all India, and that it was not rooted out by the Brahmas
in the Decan so late as the 9th, or even the 12th century of
the christian era. Dr. Buchanan observes, (Asiat. Ref. vol.
p. 163.) that this opinion of the late introduction of the
superstition now prevailing in Hindoostan is not contradicted
by the almost singular remain of the Hindo history; the only
one which has escaped the destructive research of the cunning
Brahma; i.e. the history of Cashmere preferred to the sultan
Akber on his first entrance into that kingdom. We are
told, (Ayee Akaibry, ii. 175.) that the Sultan caused this
book to be translated, and of this translation Abul Fazil
has given an abridgment. This informs us, that when
Cashmere was freed from an inundation, by which it had
been covered, a certain Kuhup brought the Brahmas to
inhabit the new land; that, after a long time, a general
assembly
assembly of the inhabitants was called, who elected a man celebrated for his virtue to be their king; and that from thenceforward monarchy was established in that delightful region. The name of the first successor to this king, that is mentioned, is Owingun, contemporary with Kithen; referred by Dr. Buchanan to the year before Mahomed 879, or B. C. 448. These Bramins, whom Kalkh brought to Cailmere, could not, our author apprehends, be the Bramins of the prophecies, as they cultivated the earth, and were the only inhabitants of the country; but they must have been one of the Brachin nations, several of which, according to Pliny, were dispersed over India; and these again, he conjectures, are the same with the Bramins of the Rig Veda, satisfied by them to have been the first inhabitants of the earth. "That must be the meaning of the history of Cailmere (he says) seems plain; as we are told, rajph Jannick the 45th prince, and who, according to my theory, must have lived about the year of Christ 292, established in his reign the Brahmy rites. His successor Jelowk, the most powerful of the princes of Cailmere, tolerated the doctrine of Bolwids; and in that delightful valley it was not till the reign of Nerh, the 59th prince, A. D. 342, that the Brahmins got the better of the followers of Bolwids, and burned down their temples." In process of time, as the Brahins, or priests of Godama, in the Birman empire, were entirely prohibited the study of astrologers, and as the people were much addicted to all kinds of divination, the Bramins availed themselves of their credulity, and established themselves in considerable numbers all over India beyond the Ganges. It does not seem, however, that they have any concern in the religion of those countries; but they are merely employed about the courts, and in the houses of the great, as the Chaldeans were about the kings of Persia, as chief-layers and oracles. They annually compose almanacks; they perform incantations, under the throne of the king, before an audience is given on solemn occasions; they are consulted in all matters of importance, for determining the fortunate hour or season in which they ought to be undertaken; and they bellow on their protectors, amulets, charms, and such trifles. By such means the Bramins have rendered themselves important and useful in the Birman empire, and have obtained many privileges, confirmed even by the written law of the kingdom. However, their introduction into the Birman kingdom is a very recent event. The knowledge of the Birman Bramins is chiefly confined to astrology, and it is said, that they are very ignorant of astronomy; in so much that, when they attempt to calculate eclipses, they do not pretend to ascertain either the hour of their commencement, or the extent of the obser:

It is also asserted that the Bramins of Hindostan are not much farther advanced in science than those of Amaraapura, notwithstanding the improvements they have introduced from time to time, as they were able to procure information from their conquerors, Mahomedans and Christs.

The lunar zodiace, in use among the Bramins, has been exhibited by Sir William Jones, (Af. Ref. vol. ii. 291, &c.) and is supposed to have been communicated to the Birman from Chaldea by the intervention of the Bramins; nor is it unreasonable to imagine that the Bramins have derived astronomical knowledge from the Greeks and Arabs.

The religion of the Bramins, according to the opinions maintained by Paulinus and Sir William Jones, is essentially the same with that of the Egyptians; and M. Anquetil du Perron concurs with the latter in supposing that Egypt was the source from whence the Bramin worship has been spread over a great part of the Eastern world. The Bramin priests in India adopted and extended it, and, as we have already observed, gained a superiority over the priests of Bouddha about the time of Christ; and about 900 years afterwards, they totally overthrew his doctrine in its native country. The Vedas, which are the oldest books of the Bramins, are inferior in antiquity to the time of Bouddha, because they mention the name of that personage. Against the Egyptian origin of the Brahminical worship, the cosmogony of the Bramins has been adduced: this is nearly the same with that of the Rahans, and seems to have been framed in the north of Hindostan. However, we may reasonably suppose the Bramins to have been a colony of Egyptians, who formed their first establishment in the vicinity of Bombay; as the images in the cave at Elephants (which see) seem to those of the gods of the Bramins. By degrees they engraven their superstition on the ignorance of the Hindoos, adapting the African deities and mythical philosophy to the Asiatic fables and heroes, and cautiously introducing the Egyptian cast and ceremonies, with all their dreadful concomitances. Some have supposed, that the religion of the Bramins was introduced from Egypt into India as early as the time of Seekar; but to this opinion it has been objected, that the object of his military expeditions, if indeed we allow their reality (see Seckar), appears to have been plunder, and the capture of slaves, rather than the propagation of religion or philosophy. The perfections of the Egyptian priests by Cambyses is an event more likely to have produced an extensive migration into India; nor is it improbable that the Egyptians, who before this time traded to India, might have communicated some knowledge of their science to the Hindoos.

Whatever was the precise era of the introduction of the Bramins into India, it seems to be unquestionable, that, in the usual course of human affairs, a contest arose, at some period or other after their settlement, between the regal and ecclesiastical powers. The latter, instead of being subdued, as in China and Japan, acquired the superiority, as in Tibet. But in Hindostan, from a most refined and cunning policy, the priesthood averted the divine institution of the several gods (see Cast), and, in the natural progress of their power, pronounced their own to be the supreme, and possessed of innate and hereditary sanctity. It seems to be allowed that Bouddha was a deified philosopher; and it is also probable, that Brahma was the sophist who invented the new casts, and was not only deified, but placed in the first rank of the gods, by the grateful priesthood, which assumed the sole direction of the national mythology. The chief modern deities of the Bramins are Brahma, villainus, and Siva, i.e. the creator, the preserver, and the destroyer, corresponding to the three characters under which the Greeks represented their Zeus or Jupiter. But the fundamental principle of the whole fabric of Indian mythology, conformable to the universal system of the cast, was the belief in a supreme creator, too inefable and sublime for human adoration, which was therefore addressed to inferior, but great and powerful divinities. The names and attributes of the gods and goddesses (for the voluptuous Hindoos delight in female divinities), are very numerous, and, as human ideas and objects are most universally the same, correspond in many instances with the Greek and Roman polytheism. The chief divinities of the Hindoos are well represented in Sonnerat's decorated publication; and we have an elaborate account of them in a tract "On the Gods of Greece, Italy, and India," published in the first volume of the Asiatic Researches, p. 221—275.
the most sacred; and to them belongs the province of studying the principles of religion, performing its functions, and cultivating the sciences. They have been for a long time, whatsoever be their origin, and whether it be more ancient or more modern, the priests, the instructors, and the philosophers of the nation. Such is the superiority of their cast or order, even to that of the monarchs of India, with regard both to rank and facility, that they would deem it degradation and pollution, if they were to eat of the same food with their sovereign. Their pursons are sacred, and even for the most heinous crimes they cannot be capitaly punished; their blood must never be shed. On important occasions, it is the duty of sovereigns to consult them, and to be directed by their advice, as was the case with respect to the ancient Brahmins. Their admonitions, and even their counsels, must be received with submissive respect. From some accounts preferred in India of the events which have happened in their own country, we find, that princes, who violated the privileges of the cast, and disregarded the recommendations of the Brahmins, have been deposed by their authority, and put to death. The discoveries of modern times, procured and furnished by those who have visited India during the course of the three last centuries, afford us a considerable degree of authentic information concerning the state of science among the Brahmins. The distinction between matter and spirit appears to have been known at an early period by the philosophers of India; nor can any description of the human soul be more suited to the dignity of its nature than that given by the author of the "Mahabarn," an epic poem, in high estimation among the Hindoos, composed, according to their account, by Kreekitha Dwypayan Vicas, the most eminent of all their Brahmins, above 3000 years before the Christian era. This poem contains more than four hundred thousand lines. Mr. Wilikins has translated above a third part of it; but only a short epitome, entitled "Baghvat-Geeta," is published. "Some," says the author, "regard the soul as a wonder; others hear of it with astonishment; but no one knoweth it. The weapon divideth it not; the fire burneth it not; the water corrupteth it not; the wind driveth it not away; for it is indivisible, incomposable, incorruptible; it is eternal, universal, permanent, immutable; it is indivisible, incomposable, and unalterable." With regard to the knowledge of logic and metaphysics, for which the Brahmins have been celebrated, we learn from Abul Fazl's compendium of the philosophy of the Hindoos in the Aycen Akyber (vol. iii. p. 95, &c.); from the speciments of their logical discussions contained in that portion of the "Shaster," published by colonel Dow (Dissertation, p. 39, &c.); and from many passages in the Baghvat-Geeta; that the same speculations which occupied the philosophers of Greece had engaged the attention of the Indian Brahmins; and the theories of the former, either concerning the qualities of external objects, or the nature of our own ideas, were not more ingenuous than those of the latter. That sceptical philosophy, which denies the existence of the material world, and affords nothing to be real but our own ideas, seems to have been known in India as well as in Europe; and the fates of the East, as they were indebted to philosophy for the knowledge of many truths, and were able to define with accuracy, to distinguish with acuteness, and to reason with subtlety, were not more exempt than those of the West from its delusions and errors. To the subject of ethics the Brahmins had directed particular attention; and their sentiments seem to have been various; so that, like the philosophers of Greece, they were divided into sects, distinguished by maxims and tenets often diametrically opposite. From several passages that occur in the Baghv at Geeta we may infer, that the distinguishing doctrines of the Stoical school were taught in India many ages before the birth of Zeno, and inculcated with a persuasive earnestness nearly resembling that of Epictetus. From India the western world derived their knowledge of the modern mode of notation by 10 cyphers or figures, which have been universally adopted, and found so convenient for performing every operation in arithmetic with the greatest facility and expedition. (See Arithmetic.) The astronomy of the Indians affords a proof still more conspicuous of their extraordinary progress in science. To M. de la Loubere, on his return from an embassy to Siam, A.D. 1657, we are indebted for an extract from a Siamese MS. which contained tables and rules for calculating the places of the sun and moon. The epoch of these tables corresponds to the 15th of March, A.D. 638. Another set of tables was transmitted from Christianobum, in the Carnatic, the epoch of which answers to the 16th of March, A.D. 1491. A third set was brought from Narrpou, the epoch of which is between the 17th and 18th of March, A.D. 1566. The fourth and most curious set of tables was published by M. Le Gentil, who received them from a learned Brahmin of Trivalore, on the Coromandel coast. The epoch of these last tables is very ancient, and coincides with the beginning of the celebrated era of the Collee Jogne, which, according to the Indian account, commenced 302 years before the birth of Christ. The calculations of M. Bailly, founded on these four sets of tables, have been verified by Mr. Playfair, who has also illustrated and extended his reasonings, in a learned dissertation published in the Transactions of the Royal Society of Edinburgh, vol. ii. p. 137. From the inquiries, reasonings, and calculations that relate to Indian astronomy, it has been inferred, that the motion of the heavenly bodies, and more particularly their situation at the commencement of the different epochs to which the four sets of tables refer, are ascertained with great accuracy; and that many of the elements of their calculations, especially for very remote ages, are verified by a surprising coincidence with the tables of the modern astronomy of Europe, when improved by the latest and most nice deductions from the theory of gravitation. The Indian Brahmins annually circulate a kind of almanack, which contains astronomical predictions of some of the most remarkable phenomena in the heavens, such as new and full moons, the eclipses of the sun and moon; and they seem to profess certain methods of calculation, that involve a very extensive system of astronomical knowledge. M. Le Gentil, while in India, had an opportunity of observing two eclipses of the moon, which had been calculated by a Brahmin; and he found the error in either to be very inconsiderable. The method of calculating eclipses, adopted by the Brahmins, is very different from that which was practised among rude nations in the infancy of astronomy, and founded on an analysis of the motions of the sun and moon, which indicate a considerable acquaintance with these motions. Indeed, the modern Brahmins, though they are guided in their calculations by scientific principles, do not understand them; nor are they acquainted with the method of constructing the tables, to which they recur in their computations. Of course the ancient Brahmins, who constructed the tables and rules now in use, must have possessed an extensive and tolerably accurate acquaintance with the elements of geometry, and also with the principles of plain and spherical trigonometry. See Benares.

With regard to the religious institutions of the Brahmins, they seem to be artfully contrived with a view of extending their own authority, and maintaining their influence over the people. They form, indeed, a regular and complete system of superstition, strengthened and upheld by every circumstance that can excite the veneration, and secure the attach-
The temples consecrated to their deities (see Pagodas) are magnificent, and highly ornamented with the most exquisite works in painting and sculpture; the rites of their worship are pompous and splendid, and the performance of them constitute an essential part of the more munificent transactions of common life; and the Brahmins themselves, who are the ministers of religion, and profuse in all its functions, are of an order elevated above all others, acknowledged to be sacred, and, by a gradation of rank among themselves, adapted to maintain subordination to each other and to their devotees, who have enriched their pagodas. The number of their deities, the attributes, and characters they ascribed to them, and the various rites by which they conducted their worship, are such as indicate their origin in the mythology of society, and such as are adapted, in their nature and design, to answer the purposes of their introduction and establishment.

The manners of the Indians, though distinguished, from the time when they became known to the people of the West, for midnights, feasts, in a remoter period, to have resembled those of other nations. Accordingly, several of their deities were fierce and awful in their nature, and were represented in their temples under the most terrible forms. The known influence of superstition shall be able to account for the establishment of a ritual of worship suited to the character of such deities, among a gentle people. Every act of religion, performed in honour of some of their gods, seems to have been presided by fear; and a variety of mortifications and penances was introduced among them, the recital of which is accompanied with horror. Although it is repugnant to the feelings of an Hindu to find the blood of any creature that has life, many different animals, not excepting the most useful, such as the horse and the cow, were offered up as victims upon the altars of some of their gods; and their pagodas were even polluted with human sacrifices, as well as the temples of the West. But religious institutions, and ceremonies of a less severe kind, were more adapted to the genius of a people, formed by the extreme facility of their mental and corporeal frame, to an immediate love of pleasure. Accordingly, there is no part of the earth, in which a connection between the gratification of sensual desires and the rites of public religion is displayed with more shameful indecency than in India. In every pagoda a band of women was set apart for the service of the idol honoured there, and devoted from their youth to a life of pleasure, for which the Brahmins prepared them by an education, which added to many elegant accomplishments to their natural charms, that what they gained by their proficiency often brought no inconsiderable accession to the revenue of the temple. It is the office of these women, in every service performed in the pagoda, and in every public procession, to dance before the idol, and to sing hymns in his praise; and it is difficult to say, whether they triumphed against decency by the gaiter which they exhibit, or by the verbs which they recite. The walls of the pagoda are covered with paintings in a style no less indelicate; and in the innermost recess of the temple is placed the "Lingam," an emblem of productive power, which it would be improper to explain.

If we advert to the theology of the Brahmins, we shall find, amid all their polytheism and superstitition, they acknowledge and reverence one Supreme Being, the creator of all things, and from whom all things proceed. "They all," says Abul Fazil (Ayeen Akbery, vol. iii. p. 37) "believe in the unity of the godhead; and although they hold images in high veneration, it is only because they represent existential beings, and prevent the thoughts of those who worship them from wandering." To the same purpose, the Pandits, who translated the "Code of Gentoo laws," declare, that "it was the Supreme Being, who by his power formed all creatures of the animal, vegetable, and material world, from the four elements of fire, water, air, and earth, to be an ornament to the magazine of creation; and whose comprehensive benevolence selected man, the centre of knowledge, to have dominion and authority over the reft; and having bestowed upon this favourite object judgment and understanding, gave him supremacy over the corners of the world." These refined sentiments the modern Brahmins derive from the writings of their ancient Pandits, to which they are also indebted for the wisdom which the most learned members of their order now possess. The most profound mysteries of the Hindu theology, which had been long carefully concealed by the art of the modern Brahmins from the body of the people, have been unveiled by the translations from the Sanscrit, or Shanscrit language lately published. The principal design of the Baghvat-Gecta, already cited, seems to have been to establish the doctrine of the unity of the godhead, and, from a just view of the divine nature, to deduce an idea of that kind of worship which will be most acceptable to a perfect being: and we find in this poem descriptions of the Supreme Being, equal in sublimity to any which we derive from the Greek philosophers. Dow, in his "Disertation," (p. 40) quotes a passage from one of the sacred books of the Hindoos, from which we may infer what were the general sentiments of the learned Brahmins concerning the divine nature and perfections: "As God is immortal, he is above all conception; as he is invisible, he can have no form; but from what we behold of his works, we may conclude, that he is eternal, omnipotent, knowing all things, and present everywhere." To men capable of forming such ideas of the deity, the public service in the pagodas must have appeared to be an idolatrous worship of images, by a superstitious multiplication of frivolous or immoral rites; and they must have perceived, that it was only by sanctity of heart, and purity of manners, men could hope to gain the approbation of a being perfect in goodhefs. This truth is sedulously inculcated in the "Mahabarat;" but, at the same time, with the prudent reserve and artful precautions natural to a Brahmin, ludicrous neither to offend his countrymen, nor to diminish the influence of his own order. We find, however, a very lamentable mixture of ignorance and error in all the theories of the Brahmins, in common with the fages of other countries, concerning the perfections and operations of the Supreme Being. As they held that the syllem of nature was not only originally arranged by the power and wisdom of God, but that every event which happened was brought about by his immediate interposition; and as they could not comprehend how a being could act in any place in which it was not present, they ascribed the deity to be a vivifying principle diffused through the whole creation, an universal soul that animated each part of it. Every intellectual nature, particularly the souls of men, they conceived to be portions separated from this great spirit, to which, after fulfilling their destiny on earth, and attaining a proper degree of purity, they would again be re-united. In order to efface the stains with which a soul, during its residence on earth, has been defiled, by the indulgence of sensual and corrupt appetites, they taught that it must pass, in a long succession of transmigrations, through the bodies of different animals, until, by what it suffers and what it learns in the various forms of its existence, it shall be so thoroughly refined from all pollution, as to be rendered meet for being absorbed into the divine essence, and returns like a drop into that unbounded
boundless ocean, from which it originally issued. These doctrines of the Bramins, concerning the deity, as the soul which pervades all nature, giving activity and vigour to every part of it, as well as the final union of all intelligent creatures to their pristine source, coincide with the tenets of the Stoical school. In the errors also of their theological speculations we may discover a great similarity. As it was maintained by many among the Greek and Roman philosophers, that the vulgar and unlearned had no right to truth, the Bramins of India adopted similar ideas, and they regulated their conduct in the same manner with respect to the great body of the people. To their order belonged the exclusive right of reading the sacred books, as well as of cultivating and teaching science; and therefore they had in their power most effectually to prevent all who were not members of the order from acquiring any information beyond what they were pleased to impart. Hence it happened, that, like many of the cities of Greece, the Bramins of India carried on, with studied artifice, a scheme of deceit, and, according to an emphatical expression of an inspired writer (Rom. i. 18.), they 

detained the truth in unrighteousness. Whilst they themselves knew and approved what was true, whilst they harboured in the soul of mankind to support and perpetuate what was false.

The Bramins of Hindoostan have a language peculiar to themselves, which they call Sanscrit of Shanscrit (which fee); and in this language they have ancient books written, as they allege, by their great prophet and founder Brahma; such as the 

Bheda, or Vedan, delivered, as they say, to their lawgiver, Brahma, by the Deity; the Shulter, or Shukth, which is their 

biblic; and Puram, or Purnam, a history which they deem 

sacred, and which they pretend to have been dictated by God himself, containing also the explanation of the flatter. For an account of these books, see each of these terms. These sacred books are kept in close custody by the Bramins; nor do they suffer their contents to be communicated to their own laity, much less to strangers. The flatter contains a summary of their moral and ceremonial laws, together with the distribution of mankind into tribes and castes, and an account of the rules of conduct appropriated to each. (See Shastar.) From this book, on the precepts of which the Bramins profess to found their practice, it appears, that their religion, and particularly the ceremonial part of it, consists in frequent ablutions in their rivers, and more especially in the Ganges, muttering over divers prayers under green trees, and in their temples, accompanied with proccedings, thinking of bells, offerings to images, incantations, and similar rites, the observance of fasts and festivals, pilgrimages, invocations of saints, and divers strange and unaccountable penances. From their Vedan they pretend to derive several privileges, peculiar to their own order; such as those of celebrating the feast called "Iagam," at which they kill animals, and eat flesh, and offer a beast for sacrifice, which they trample, in order to avoid shedding its blood; of teaching the Kutteries the manner of celebrating this feast; of reading the Vedan, and of teaching it to their own tribe, and that of the Kutteries; of demanding but not of giving alms; and of never being punished with death, even for the most enormous crimes. Their office is to teach others not only reading, writing, and arithmetic, but the principles of their religion. As a recompense for their time and labour, the kings, or rajahs, assign for their support the revenues of certain villages, and they also receive contributions from the inhabitants of the several countries in which they reside. They are also allowed to officiate as merchants, and to practice physic, but are strictly forbidden to employ themselves in tillage, or any handicraft trade; or to perform any

fertile office, even for the king. An offence of this kind would incur degradation and expulsion from their tribe; however, they are permitted to act as secretaries, ambassadours, or counsellors to their sovereigns, and, indeed, they almost wholly engross these honourable offices to themselves. The birth, baptism, and education of the Bramins are attended with circumstances and ceremonies peculiar to themselves. At their baptism, they are not only washed with water, but anointed with oil, which rites are accompanied with prayers and benedictions. At an early age, they are invested with a small cord, which is hung on the left shoulder, and descends low on the right side, and which they retain as an essential article of their attire. The Bramins never contract marriage out of their own tribe, and that they do at a very early period of life. On this occasion they receive a second little cord, resembling the first, and to this also they usually annex a third, which serves instead of an upper garment. When the Bramins arrive at maturity and more advanced age, they are allowed to take wives out of the other tribes; but they never marry their children to near relations, as incest is deemed by them one of the five mortal sins which is scarcely ever to be forgiven. Among the Bramins polygamy is indulged to great excess; and as an apology for it, they allege, that the Vedan has not forbidden it. For concubinage and adultery they have no punishment; but a Bramin who finds his wife to be unfaithful, confines her, and supplies her with food while she lives; and if he be much attached to her, he requires her to serve at a feast, to which he invites several of his tribe, and after the guests have received viands from her hand, she is regarded as an honest woman. Their diet, like that of the ancient Brachmans, is simple and temperate, and consists solely of rice, roots, fruits, and herbs, and their drink is water and milk. They never use any intoxicating liquor; for they abhor drunkenness, and reckon it among their mortal sins. Although the Bramins decline eating flesh, because they deem the slaughter of animals for this purpose to be a great sin; they are, however, charged with inconsistency by the Kutteries and Soudras, who eat fish and flesh, as they dilodge many fowls from their bodies by plucking up roots and plants, which, upon their system of transmigration, are endowed with souls as well as animals.

The Bramins, as we have already observed, are priests both secular and regular, and have amongst them an established hierarchy, composed of several orders, that are variously distinguished in the several provinces of Hindoostan. The learned Bramins constitute two classes; the first of which is called "Kuru," and belongs to the priesthood; the second, denominated "Satiavir," or "Shantiavit," comprehends the professors of the different systems of theology. Besides these two classes of learned Bramins, there are many others, not much inferior to them in wisdom and erudition, whose chief business is to instruct youth in those points which relate to the ceremonies used in public worship, and solemn festivals. The ministerial function of the Bramins consists in praying with the people, and reading their law. To them it also belongs to educate the young persons of the same tribe, who advance by various gradations to the priestly office. When they are set apart to this office, they are enjoined not to change their tribe; to observe all things contained in the law of the Bramins; and not to communicate the mysteries of their religion to any of a different persuasion.

The Bramins are divided into six sects; viz. Weilnonua, Sevia, or Aradhya, Smartu, Shaavakka, Palenda, and Chetkea, who are distinguished by certain differences in their tenets, and ceremonial practices. For a further account of
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the doctrine, worship, character, customs, &c. of the Brahmins, we may refer to the La Porte Ouvr. of M. Rogier, chaplain to the Dutch factory at Poohean on the coast of Coromandel; the travels of Bernier and Sommerv; the Difficulties of Orme, Dow, sir William Jones, &c. &c.; the Code of Gentoo Laws; the Asiatic Researches; Robertson's Difficulties concerning India, &c. See also the articles above referred to, and also Belom, Hindoo, Hindostan, &c. in this dictionary.

Robert de Nobili, an Italian Jesuit, and one of the Indian missionaries, in the beginning of the seventeenth century, in order to secure favours to his mission, assumed the title and appearance of a Brahman, and at length persuaded the credulous people, that he was, in reality, a member of that venerable order. He forged a deed in the ancient Indian characters, showing that the Brahmins of Rome were older than those of India, and that the Jefuits of Rome defended in a direct line from the god Brahma. He farther declared on oath, that he derived his origin from this Indian deity. By this imposture he profited twelve hundred Brahmins, whose influence proved very favourable to his mission. After his death, the Portuguese Jesuits carried on the imposture with very considerable success. These millions, however, were supplicated and abandoned, in consequence of a papal mandate, issued out in the year 1744, by Benedict XIV. who declared his disapprobation of the articles that had been used in the conversion of the Indians. Mothere's Eccles. Hist. vol. iv. p. 211. &c. 8vo. edit.

BRACHMANUS, in Ancient Geography, a river of India, on the other side of the Ganges, between this river and Catabeda.

BRACHMEA, Cangy-Varan, a town of India, in the peninsula on this side of the Ganges, according to Ptolemy. It was situated in the interior of the country, at an equal distance from the eastern coast of the peninsula and the town called Arcatis, and occupied by the people denominated by Ptolemy "Brachmanii Magni."

BRACHODES, the name of a promontory in the Mediterranean, on the coast of Africa. Ptolemy. Strabo calls it "Ammonis promontorium," and Procopius "Caput Vada."

BRACHSEN, in Ichthyology. See Brama Cyprinus.

BRACHVOGEL, in Ornithology, the name given by Frisch to the frugelus arquata, or common curlew.

BRACHURI, in Zoology, a term applied by Dr. Hill to a genus of aminoacules of a roundish figure, with tails shorter than the body. The vermes of this description have undergone of late years much accurate investigation, especially by Müller, the result of which is, that the genus brachuri is exploded by modern writers on the animalcula infusoria.

BRACHYACANTHUS, in Entomology, an insect of the Ichneumon genus found in Europe. The colour is black; spots on the head and thorax; small line on the femur, and tip of the abdomen white; wing very short; shanks fuscous, whitish at the base. Linn. &c.

BRACHYACANTHUS, a species of Ichneumon, the colour of which is black; antennae fuscous; abdomen and legs yellow; wing very short, Linn. Inhabits Europe.

BRACHYCOLON, from βραχυς, short, and κολον, member, is when one member of a period is shorter than another.

In which sense, the word stands contradistinguished from ἥκτος, where the members are equal, or confimed of the fame number of syllables.


covnt, cylindrical, equal. Down plumeo.

Species, 1. B. repanda. Leaves ovate, repando-filiate. 2. B. roundifolia. Leaves nearly round, very entire. Forster.

BRACHYGLOTTIS. See Cineraria.

BRACHYGRAPHY, (from βραχυς, short, and γραφη, to write) denotes the art of short-hand writing, called also tachography. See Short-hand.

BRACHYLOGY, from βραχυς, short, and λεγη, expression, in Rhetoric, brevity, the expressing anything in the most concise manner. This, so far as consistent with perspicuity, is a virtue and beauty of style; but if obscurity be the consequence, which is often the case, it becomes a blemish and inexcurable defect. Quintilian gives us an instance of brachy
logy from Sallust: Mithridates, corpore ingenti periculo armatus: Mithridates, as he were armed with the help of his stature. Inf. Or. lib. viii. cap. iii.

BRACHYOTOS, in Ornithology, a species of Strix, or Owl, of the horned kind. It is specifically distinguished by having the horn-feather or tuft very short; the body is fuscous above; feathers edged with yellow; beneath pale yellow, longitudinally streaked. Forr. Penn. Donov. Brit. Birds. &c. Buffon calls this kind of owl l'oulonet, or grande chevêche. It is the short-eared owl of English ornithologists. The length is fourteen inches. Found in America as well as Europe.

BRACHYPNEA, in Medicine, a term expressing short breathing, a symptom which occurs in various affections of the lungs, both acute and chronic, from βραχυς, short, and πνευμα, to breathe. See Dyspnea.

BRACHYPOTE, a term applied to persons labouring under acute diseases, who drink but little, and with difficulty; from βραχυς, short, and ποτη, a drinker. This term has been applied by some modern physicians to persons labouring under hydrophobia.

BRACHYPTERA, in Entomology, a species of Mantis, found by Pallas in Russia. The colour is cinnereous; thorax dentated; wings half the length of the abdomen. Haunts sandy deserts.

BRACHYPTERA, in Ornithology, the name of a genus of birds of the rapacious kind, in Willughby's System. The birds of this genus he distinguishes by the shortness of the wings, the gola, the wing being derived from βραχυς, short, and πτερον, a wing; these, when folded, not reaching so far down as the extremity of the tail. Of this genus were the gobby, sparrow hawk, and three kinds of butcher-bird. Neither the generic term, nor the discriminating character laid down for it are recognised by modern ornithologists.

BRACHYPTERUS, in Entomology, a species of Cimex, defribred by Linnaeus, the colour of which is pale; body linear; wing-cases a third part the length of the abdomen. Inhabits Europe.

BRACHYPTERUS, a species of Gryllus, (Tettigonia, Fab. Locútia, Gmel.) Inhabits the north of Europe. This kind feeds upon the grass; it is of a greyish fuscous colour, and is distinguished further by having the wings, and wing-cases
scares half the length of the body, a circumstance to which its specific name alludes.

**BRACHYPYRENA.** from *brachy,* short, and *pyrex,* nucleus, in Natural History, a genus of fossils of the class *Septaria.* The brachypyrena have a short roundish nucleus, included by, and contained within, the body of the units.

**BRACHYTELOSTYLA.** the name of a genus of crytals.

The word is derived from *brachy,* short, and *tele,* far, and *ystyl,* a column, and expresses a perfect crytal, with a short intermediate column.

The bodies of this genus are crytals composed of a short rectangular column, terminated at each end by an hexagonal pyramid. Of this genus there are six known species. Hill's Hill. Fossils, p. 103.

**BRACHYURA.** in Entomology, a species of *Eqnkius,* that inhabits Italy. It is briefly described as being entirely yellowish.

This is the short-tailed sparrow, and short-tailed Italian sparrow of English writers. Britton names it *passerulus* bononiae.

**BRACHYURUS.** in Entomology, a species of *Ichnespidius,* that inhabits Germany. The colour is fulvous: feeted fulvous; thorax, eyes, and abdomen, (which is linear at the base,) black. Schrank.—Abdomen and head tealaceous; legs yellow.

**BRACHYURUS.** in Ornithology, a species of *Lanius,* described by Pallas. The head above is ferruginous grey; eyes-brows whitish; a black band from between the eyes to the ears; body above greyish, cincinnous; beneath yellowish white; tail rounded. This is the short-tailed *furry* of Latham. Found but rarely in Hungary.

**BRACHYURUS.** the short-tailed crow, a species of *Corvus,* of a green colour; beneath tawnyish, and lined on the head with the same colour; wings with a white spot.

This bird inhabits the islands of the Indian ocean. The species admits of no less than seven distinct varieties, according to some writers, of which number Gmelin describes three, *corvus* Philippinus, *corvus* Bengalensis, and *corvus* Moldogofaricns.

**BRACHIEUX.** in Geography, a town of France, in the department of the Loire and Cher, and chief place of a canton, in the district of Belize, 3 leagues N. E. of Belize. The place contains 790, and the canton 10,250 inhabitants; the extent of the territory comprehends 345 kilometres and 14 communes.

**BRACKE.** a town of Germany, in the circle of Westphalia, and county of Oldenburg; 18 miles N.N.E. of Oldenburg.

**BRACKE, or Brake.** a town of Germany, in the circle of Westphalia, and county of Lippe; one mile S. E. of Lemgow.

**BRACKENWITZ.** a town of Germany, in the circle of Upper Saxony, and middle mark of Brandenburg; 3 miles S. of Treuenbrieten.

**BRACKET.** in Building, denotes a kind of wooden stay, in form of a knee or shoulder, serving for the support of shelves, &c. or a cramping-iron, which serves as a stay in timber work. The word is also written *braget,* and seems derived from the Italian *brachetto,* a diminutive of *braccio.*

Madillons are a sort of *brackets,* to the corona of an entablature.

**Brackets.** in Artillery. See *Cheeks of a Mortar.*

**Brackets.** in Ship-building, small knees serving to support the galleries, and commonly ornamented with carving. Also, the timbers fixed under the galleries and frame of a ship's head to support the gratings.

**BRACKISH water,** a mixture of fresh and salt water.

**BRACKLEY,** in Geography, an ancient borough town of Northamptonshire, England, comitial of the two parishes of St. James's and St. Peter's, and a hamlet called Old Brackley. Leland states, that this place confounded of many streets, in his time, and that it was a flourishing town during part of the Saxon dynasty, till the Danes "raided it." Edward the 11th. made it a wool flane, and gave it a corporation; but it was not invested with borough privileges till the last parliament of Henry VIII., when two members were returned. "There was a fair cattle," says Leland, "in the south-west end; the site and hill where it stood is evidently seen, and beareth the name of the Castle Hill, but not any piece of wall standing." Here were also three ancient catholic crosses, one of which, says this respectable antiquary, "was decorated with divers tabernacles, with ladies and men armed. Some say the flapers of the town made it; but I rather think some nobleman, lord of the town." This crose, 28 feet high, was taken down in 1706, by the duke of Bridgewater, to build the handsome town-house in its place. Robert Beauf, earl of Leicester, founded an hospital here in the time of Henry III. John, son of lord chancellor Ellempere, was created viscount Brackley 14th James L., earl of Bridgewater the following year, and marquis, afterwards duke of Bridgewater, to George I. On Bayard's Green, between Brackley and Mitty, was held a famous tournament in 1249; and another was held here about the same time. The river Oufe rises near this town, and supplies it with water. Here are a weekly market on Wednesday, and five fairs annually. It is 13 miles from Northampton, and 6; N. W. from London. The two parishes and hamlet contain 183 houses, and 1495 inhabitants, of whom 253 are employed in manufactories. Gough's edition of Camden's Britannia; Bridge's history of Northamptonshire, &c.

**BRACKWAD, a town of Germany, in the circle of Westphalia, and county of Ravenburg; 4 miles S. E. of Bielefeld.

**BRACLAW, or Braklaw,** a city of Poland, and capital of a palatinate of the same name, called allo of Lwow, seated on the river Bag.

**BRACSEA,** a thin flake or spangle of any substance; it is used by many authors in the same sense with the word *lamina,* but usually in a sort of diminutive sense, expressing a small plate.

**BRACSEA, BracT, in Botany, a name given by the Latins to very thin plates of gold, silver, or other metal, and applied by Linnaeus to the floral leaves of a plant, first distinguished and described by himself. They consist of scales, or of small leaves, which differ from the other leaves of the plant generally in figure, and often in colour. They are placed sometimes on the peduncle, and always near the flower, so that in some cases they are liable to be mistaken for a perianth; they may, however, be distinguished from it by their continuing as long as the proper leaves, whereas the perianth withers as soon as the fruit becomes ripe. Good examples of bracteae may be found in *tilia* (linden or lime-tree), *malpuryum* (cow-wheat), *monarda* (ofewgo balm), &c.

According to the physiology of Linnaeus, and his immediate pupils, they are formed in the bud, by a kind of anticipation, and become proper leaves of the new shoot or branch in the second year, if the state of inflorescence be not hastened on by the force of the medullary principle; but when that takes place, as in certain circumstances it naturally does, part of the nourishment which they would otherwise have received, being diverted to the use of the fruiti-
fructification, they do not acquire their full vigour, and in consequence, dwindle into floral leaves. In proof of this theory, it is alleged, that if the fructification he prematurely delayed by injury, or purposely cut off, they regain sufficient influence, and assume the form and size of perfect leaves. See the introduction to the second volume of the Systema Naturae, and the two dissertations, entitled Protocols Plantarum, published in the Amoretium Academy.

The bracteae are placed by Linnaeus under the head of what he fancily calls frutes, props, or supports, from an idea that they sustain or strengthen the whole plant, or some of its parts. In the Syboma Nature they are distinguished according to their duration, into caducous, falling off before the end of the summer; deciduous, falling off at the end of the summer; and persistent, remaining beyond the end of the summer; but it does not appear how the exception laid down in the Philosophia Botanica, to discriminate a bract from a petiole, is to be applied to those that are caducous. They are fixed comose, when they shelter the flowers in the form of a crown, tuft, or coma (head of hair) as in the frutillaria imperialis (crown imperial), bromelia amans (pineapple), &c. but in this case they do not very happily correspond with the generic appellation fullum. They have the character of imbricate, when they are placed among the flowers so close to them and to one another, as to form a kind of spike or head, as in prunella (self heal), and orizymum (marjoram).

Bracteae not only afford excellent specific differences, but are sometimes admitted into the generic character, as in many genera of the natural order, umbellifer, and in some of the class dicotyledon, and are there laid by Linnaeus to constiute an involution, one of his species of calyx. They are however, truly bracteae; and would, doubtless, have been so considered by him, if, under that denomination, they had not interfered with the established principle, that generic characters are to be taken solely from the parts of fructification.

Bractea, in Entomology, a species of phalena of the noctida family, the wings of which are variegated, and in the middle of each of the anterior pair is a large shining golden spot. Fabr. &c. Found in England, though very rarely, more common in the south of Europe.

Bractearia, in Natural History, the name of a genus of sowths of the tribe Clas, the characters of which are, that they are composed of small plates in form of spangles, and each of these, naturally very thin or stifile, into very thin ones.

The word is derived from the Latin bracteae, a spangle or small and thin glittering particle of any thing.

There are many species of this genus denominated from the variety of their colours; as mica aurea, or gold-glimmer, and mica argentata, silver-glimmer, etc. &c.

Bracteata, in Entomology, a species of cicada (membracis, Fabr.) of a small size, that inhabits Cayenne, the thorax of which is green, and without spots.

Bracteated, among Antiquaries, denotes a coin covered over with a thin plate, or leaf of some richer metal. See Medal.

Bracteated coins, or medals, nummi bracteati, are usually made of iron, copper, or brass, plated over, and edged with gold or silver leaf, and then dipped with the hammer or milled. Medallists find some bracteated pieces even among the truly ancient coins. The French call them fourres.

Bracteatus, in Entomology, a species of monocus, the shell of which is orbicular and unarmed. Mill. The shell of this kind is very pellucid, antennae and legs furnished with bristles, eyes not conspicuous. Inhabit pure fresh water.

Bracton, Henry de, in Biography, a celebrated English lawyer and judge of the 15th century, was, according to Prince (Worthies of Devon), a native of Devonshire; and having gained distinguished reputation by his study of both the canon and civil law at Oxford, he was appointed by king Henry III. one of his judges itinerant about the year 1544, and afterwards, as some say, lord chief justice of England. In the exercise of this office he conducted himself with exemplary integrity; but his fame is principally owing to his excellent treatise on the laws of England, generally entitled De legibus et consuetudinibus Anglie, though he himself gave it the title of "Britto," whence many mistakes have occurred in writing his name. This work has always been esteemed one of the most accurate and methodical treatises on our laws. It was first printed at London, in 1563, in folio; and reprinted, in 1569, in 4to., from a collection of various manuscripts for the amendment of the text. Some inconsistencies have been charged on Bracton from the citation of different passages in his book; in some he seems to discover too great an attachment to the authority of the pope; and in others he gives such various representations of the regal authority in this kingdom, as seem to favour sometimes the extension, and at other times the restraint and limitation, of the royal prerogative. These inconsistencies, however, have been ascribed by candid writers to the unsettled times wherein he lived, in which the power of the king and that of the barons were alternately prevalent, and charters of liberty were no sooner signed than violated. The time of his death is not precisely ascertained; but he probably survived his master, and died in the reign of Edward I. Biog. Brit.

Brad, in Geography, a town and capital of a district of the same name, in the county of Wiltshire, in Transylvania.

Braddock's Field, a place in America, situate on Turtle creek, on the N. E. bank of Monongahela river, 6 miles E. S. E. from Pittsburg, and rendered memorable by the defeat of general Braddock, who with 1400 men, the first division of his army, fell into an ambuscade of 400 Indians, by whom he was defeated and mortally wounded, July 9th, 1755. The American militia, disadvisedly placed in the rear, continued unbroken, and served as a rear-guard; and under Col. Washington, afterwards president of the United States, preferred the regulars from being entirely cut off.

Braddock's boy lies on the south side of lake Ontario, 42 miles west from Great Sodus, and 65 east from fort Niagara.

Bradfield, a market town of England, in the county of Essex.

Bradford, John, in Biography, a protestant martyr, who flourished in the reign of queen Mary, was born at Manchester, in the early part of the reign of king Henry VIII. Having received a good education, not only in the Latin tongue, but particularly in writing and accounts, he was recommended to sir John Harrington, treasurer, pay-master of the forces, and principal engineer at Boulogne, and was employed by him as his clerk. In this employment, for which his education had eminently qualified him, he continued many years, approving himself to his principals, and deriving from his office considerable emolument as well as honour. In the discharge of his trust, however, he seems to have availed himself of his acuteness and dexterity, as an accountant, in a manner that rendered him uneasy in his own mind, more especially after he had heard a sermon from Latimer on the subject of "Restitution;" and he immediately determined to procure an adjustment of his accounts with the crown, and to apply to his master, sir
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Sir John Harrington, for this purpose; for John demurred and delayed, and thought Bradford conscientiously precise and scrupulous. This incident gave a new direction to his views and pursuits; and though for some time he pursued the study of the law at the Inner Temple, he resolved to remove to Cambridge, and to devote himself to the profession of a divine. In this new situation he applied to his studies with singular diligence, and first took his degree of M.A.; and was afterwards elected fellow of Pembroke Hall. During this time the recollection of his former misconduct oppressed his spirits, nor was he able to recover the tranquillity of his mind till, by successive payments, as his circumstances would allow, he had discharged the full sum of 500l. as a repetition to the king. By this act of just retaliation, performed voluntarily on his own part before the king and council knew of the offence, did he give the most unequivocal proof of the sincerity of his repentance, and lay the firmest foundation of that reputation and usefulness for which he was afterwards distinguished. Having thus pacified the accusations of his conscience, he proceeded in his studies with unabated vigour; and his character for piety was likewise so eminent, that bishop Ridley, in 1550, sent for him to London, induced him to receive death's orders, gave him a licence to preach, and soon after appointed him one of his own chaplains. Mr. Bradford acquired great popularity as a preacher, both at St. Paul's Cross in London, and in his native county; and continued the exercise of his ministry with unintermitting ardour and singular succefs until the close of king Edward's reign, and after the commencement of that of queen Mary. But with the change that took place on this occasion, he, as well as many others, suffered the severity of persecution. His undaunted resolution and zeal exposed him to peculiar danger; and his popularity as a preacher, which afforded him an opportunity of preserving the life of a popish priest, who, by a furious declaration against the late king, and in favour of popery, had incensed the multitude that formed his auditory at St. Paul's Cross, was interpreted by his enemies into an occasion of offence; and in consequence of this act of humanity and kindness, for which he merited recompence even from the powers that then prevailed, he was arrested by order of the queen's council and bishops, and committed to prison under a charge of sedition and heresy. During his close confinement, for about a year and a half, in various prisons, he manifested an invincible attachment to the principles of the reformation; and exerted himself by private admonitions and epistolary addresses, for which he availed himself of every opportunity that occurred, in representing the delusions of popery, and in confirming those who were wavering in their adherence to the protestant faith. Many of his letters and discourses are extant; and they abound with expressions of the most fervent piety and unyielding constancy. In the beginning of the year 1554, he was brought before a commission specially appointed for his examination; but, as he persisted in an undaunted avowal of his opinion, he was finally condemned. After his condemnation, he was remanded to prison, where he remained near half a year longer; manfully refuting every attempt that was made with a view of inducing him to abandon the cause to which he was devoted, and recommending himself to mild treatment on the part of those who had the custody of him, by the gentleness of his temper and manners. During the successive intervals of his confinement, he preached constantly, and was allowed to receive the visits of his friends, who refrained in great numbers to enjoy the benefit of his discourses. So irreproachable and exemplary, indeed, was his conduct, and to such a degree did he attach the esteem, and interest the humanity of those who had access to him, that many papists were induced to express their wishes for the preservation of his life. To his fellow prisoners he communicated faithful counsel and pious addresses, from the several circumstances required; and he was eminently useful in reclaiming the erroneous, and in reforming the vicious and profane. At length, however, the day of his execution arrived; and when it was announced to him, he lifted up his eyes to heaven, and said, "I thank God for it; I have looked for it a long time; therefore it comes not suddenly, but as a thing waited for every day and hour; the Lord make me worthy of it." On the 11th of July, 1555, he was brought to the scaffold at Smithfield, in company with a Yorkshire youth, named John Lyefe, then an apprentice in London, whom he animated to constancy by his example of calm and undaunted fortitude; and having killed a faggot and the flake, he pulled off his cloaths, and prepared for the last tremendous scene. At the flake, he exclaimed aloud, with his hands and face lifted up towards heaven, "O England, England, repent thee of thy sins; beware of idolatry, beware of Antichrists, lest they deceive you," and then forgiving, and interceding for the souls of all the world, he comforted his companion, and embracing the flames reeds that were near him, uttered these words, the last which were distinctly heard: "Strait is the gate, and narrow is the path;" and thus expired. Biog. Brit.

BRADFORD, East and West, in Geography, townsip of America, in the county of Chelker, and state of Pennsylvania.

BRADFORD, a township of Essex county in the Massachusettts, been on the south side of Merrimack river, opposite to Haverhill, and 10 miles west of Newbury port. It has two parishes, and contains 1,571 inhabitants. In this place is a manufactory of leather shoes for exportation, and some vessels are built in the lower parish. Several streams fall into the Merrimack river from this town, which support a number of mills of various kinds. Also, a township in Hillsborough county, New-Hampshire, containing 2,179 inhabitants, incorporated in 1760; 20 miles E. of Charlestown. Also, a township in Orange county, Vermont, on the west bank of Connecticut river, about 20 miles above Dartmouth college, having 674 inhabitants. In this township is a remarkable ledge of rocks, about 200 feet high, which appears to threaten the passing traveller; the interval between it and the river is fearfully wide enough for a road.

BRADFORD, a market and manufacturing town in Wiltshire, in England, 100 miles W. from London, and 7 N. E. from Bath. Its name appears to have been derived from the Saxon term Bradenforde; so called from the broad ford which formerly crossed the river at this place. Though not a town of large extent, it has acquired considerable importance from the great quantities of fine broad cloth manufactured here, as from ten to twelve hundred pieces are sent away annually. One manufactory alone employs nearly fifteen hundred persons, and the number of clothiers is between sixty and seventy. Its situation is peculiarly romantic, being principally built on the declivity of a hill, and consists of three streets rising one above the other. These are narrow and irregular, yet many good houses present themselves to the eye of the passenger. The church, a plain stone building, with a square tower and small steeple, is situated at the foot of the hill, and consists of a nave, S. aisle, chancel, and a small chapel on the S. side. In the chancel are several large and handiome monuments, and the church is ornamented with two windows of modern stained glass, which were given by John Pellet, Esq., a native of Bradford; who also left a donation of ten pounds to be laid out in bread, and distributed among the poor monthly. Near the church is a free-school for boys, and in the town are two charitable
At Pulley, 4 miles from Bradford, is a large religious house, belonging to the Moravians; and consists of a chapel, refectory, dormitory, school, \\&c. See Moravians. Aikin's Description of the country round Manchester, 4th.

BRADING BAY, lies in the Isle of Wight, at the east end of the island, almost opposite to Portsmouth, and not far from St. Helen's road. It is generally dry at low-water, and when the tide is in, has only a narrow channel for small vessels, on account of a bar at the entrance.


Male Flowers.

Calyx none, (Schreb.) five or six leaves, perfoliâted, (Gartner.) Corol. petals five, ovate, concave, spreading, nearly equal. (Schreb.) none, (Gart.) Stæm. filaments three, very minute; anther cylindrical, erect, consisting of three united, didymous anthers, tipped with a sharp-pointed appendix. (Schreb.) fix. (Gart.)

Female Flowers.

Cal. none. Cor. one-petalled, fix-parted, inferior, three of the segments interior. (Schreb.) Cal. and Cor. as in the male. (Gart.) Pyl. germ globosum, fix-furrowed, superior; style none; stigmas, from fix to eight, very small, convolvulaceâs. (Schreb.) 'style thick, fix-parted above, stigmas simple, obulate. (Gart. from the papers of Salmon.) Pericarpium capellus depresso, with twelve furrows, fix cells, and fix valves, delicient. Seeds, solitary, roundish, (Schreb.) two in each cell, (Gart.)

Species 1. B. finnisca. (La Marck. illus. pl. 772. as branch in fruit,) a shrub. Leaves, alternate, lanceolate, veined. Flowers, axillary, single, pedunculated. 2. B. eclyptica. A shrub. Calyx, monophyllous, fix-parted. (Gart.) Flowers more than one on a peduncle. (La Marck.) 3. B. Glochidion. (Philippica, Cavanilles. pl. 374.) A tree. Leaves, alternate, lanceolate, smooth, axillary, very small and numerous.

Bradlesea is nearly allied to phyllanthus; but the structure of the seeds is singular, that it ought to be made a distinct genus.

BRADLEY, JAMES, in Biography, an eminent astronomer, was born at Shireburn, in Gloucestershire, in the year 1692, and received the first rudiments of education at a grammar school in North-Leach. He was admitted a commoner of Balliol college, in the University of Oxford, March the 15th, 1716-17; and took the degree of B. A. October the 24th, 1714, and that of M. A. January the 21st, 1716-17. In 1719, he was ordained deacon and priest; and preferred in the same year by the bishop of Hereford, who had made him his chaplain, to the vicarage of Bridgwater in Herefordshire. The sinecure rectory of Landewy Welfry in Pembrokeshire was also procured for him soon after, by the honourable Mr. Molynueux. With such patronage he might have indulged reasonable expectations of more considerable preferments, and of attaining to eminence in the church; but his predilection for mathematical and astronomical studies gave a different direction to his views and pursuits. In these he was assiduous and encouraged by his uncle, Dr. James Pound, who then resided at Wansley in Essex, where our astronomer was curate, and where he commenced those observations that laid the foundation of his future fame.

On the 31st of October, 1721, he succeeded Dr. John Keil, as Savilian professor of astronomy at Oxford; and determining to devote himself to astronomy, so congenial to
his taste and talents, he refin'd his preferments in the
church. In 1734, he communicated to the Royal Society
his observations on a comet, which had appeared towards
the close of the preceding year; and, in 1726, he communica-
ted to the same body, of which he had become a mem-
er, a paper containing a comparison of some observations
made at Lisbon, with those made by himself at Wanstead,
on the eclipses of the first satellite of Jupiter, and published
in the Philosophical Transactions, No. 396. (See Abr.
vol. vii. pt. i. p. 412.) These communications were follow-
ed by his celebrated theory of the aberration of the fixed
stars, the discovery of which was announced in 1729, and
published in the Philosophical Transactions, No. 406. (See
Abr. vol. vii. pt. i. p. 129.) For a particular account and
illustration of this theory, of the principles on which it is
founded, and of the important purposes to which it is
applicable, see the articles Aberration, Light, and Star.

Our author's theory, established by the most accurate ob-
servations, was approved by the most eminent mathematicians;
and whilst the publication of it served in a very high
degree to advance his reputation, it was the means of intro-
ducing him to the acquaintance and friendship of the earl
of Macclesfield, sir Isaac Newton, Dr. Halley, and several
other person of the most distinguished character.

In 1730 Mr. Bradley was appointed lecturer of astronomy
and experimental philosophy in the University of Oxford:
the duties of which office he performed till within a few
years of his death. His observations on the comet that
appeared in the beginning of the year 1737, were published
in the Philosophical Transactions, No. 446, and an abstract
About this time Dr. Halley, who was then the astronomer
royal, and who had conceived a very high opinion of Mr.
Bradley's talents and attainments, formed a design of refi-
ing in his favour; but his death prevented the accomplish-
mint of his purpose. However, after that event, he obtained
the appointment in February 1741-2; and was, at the same time,
honoured with the degree of doctor of divinity by a diploma
from Oxford. He was now in a situation peculiarly favourable
for the prosecution of his favourite science; and he had no
opportunity of cultivating it by the number and accuracy
of his observations. Accordingly, in 1747, he announced
to the Royal Society his important discovery of the mo-
tion of the earth's axis; which was published in the Philo-
sophical Transactions, No. 485; and is preferred in the
Abridgment, vol. x. pt. i. p. 32. For a particular account
of this discovery, see Note. The Royal Society,
duly apprized of its value, conferred on Dr. Bradley their
annual prize medal. By means of the excellent instruments,
constructed by Mr. George Graham, Dr. Bradley, who knew how to use them, and what allowance ought to be
made for the errors to which they were subject, was enabled
to observe celestial phenomena, which had escaped the notice
of former astronomers; and to the vigilance and accuracy
of his observations we are indebted for the above-mentioned
discovery. Sensible, however, of the importance and utility
of good instruments, our excellent astronomer availed himself
of the yearly visit of the Royal Society to the Royal Ob-
servatory at Greenwich, to recommend an attention to this
business; and he succeeded in obtaining, by the interpo-
sition of the society, in 1748, a grant of 1000l. from
his majesty George II. to be laid out under his direc-
tion for the improvement of the astronomical apparatus.
Mr. Graham and Mr. John Bird assisted him in the accom-
plishment of this object. To him the world is peculiarly in-
debt'd for the new naval quadrant, as well as for those other
instruments which were set up in the Royal Observatory.

What use he made of them will further appear in the sequel
of this article.

In 1748, Dr. Bradley was chosen a foreign member of
the Royal Academy of Sciences at Paris; and about the
same time he became entitled to bishop Crew's beneficentio
of 50l. a year to the lecturer in experimental philosophy
at Oxford. In the year 1751, on occasion of a vacancy in
the valuable living of Greenwich, it was thought to be
conveniently situated for the Royal Observatory, and offered,
upon the part of the king, to Dr. Bradley. But he alleged
that the duty of a tutor was incompatible with his other
studies, and necessary engagements; and from the most con-
firmatory and laudable motives declined accepting this val-
able preferment. The king, however, determining that
he should not lose by his integrity, granted him a yearly
allowance of 250l. (Feb. 15, 1752); which was continued till his
death by his present majesty, and has since been regularly
paid to the astronomer royal.

In 1753, Dr. Bradley was elected one of the council of
the Royal Society; in 1754, he was appointed a member of
the Academy of Sciences at Peterburg, by diploma from
the whole body; and in 1757, he was admitted into the
Academy of Sciences at Bologna; and he was also a
member of the Prussian Academy of Sciences and Belles
Lettres at Berlin. His observations on the comet of 1757,
were published in the Philosophical Transactions, vol. i.
part 1. p. 498.

Dr. Bradley professed his studies and observations with
unabated vigour and industry, till within about two years of
his death; when, probably, as the effect of his intense and
little varied application, his spirits began to be depressed,
and he was disquieted by an apprehension that he should
survive his rational faculties: a calamity, however, which he
never experienced. Nevertheless, in 1760, his bodily strength
decreased; and about the end of June, 1762, he was attacked
with a total suppression of urine, in consequence of an inflam-
mation of the kidneys, which terminated his life, at Chal-
ford in Gloucestershire, on the 13th of July, in the 70th
year of his age. He was interred at Mitchin Hamiton,
in that county, in the same grave with his mother, and his
wife, whom he married in 1744, and by whom he had one
dughter, who survived him.

"The public character of Dr. Bradley," says one of his
biographers, "as a man of science and discernment, is well
established by his works. His private character was in
every respect estimable. Temperate in his enjoyments,
mild and benevolent in his disposition, indifferent to
the calls of wealth, distinction, and even of fame; he was indebted
to his uncommon merit alone for the friendship and regard
of the most eminent men of his time. His manner was
engaging and communicative, and his language in conver-
sation clear, impressive, and fluent, though he was rather
dispofed to listen than to speak. That he published
with a keen spirit to his ferocious accuracy which rendered him deficient, or more probably to the calm
and placid temper of his mind, which did not strongly urge
him to solicit that attention he could at pleasure command.
"His observations made at the Royal Observatory during 20
years, comprised in 13 fol. and two quarto volumes, unfor-
unately for the interests of science, were taken away at his
death by his representatives, who, upon preparations being
made by government for recovering them by process of
law, (and an actual commencement of a suit for that pur-
pose,) presented them to lord North, by whom they were
transferred, in 1776, to the University of Oxford, of which
he was chancellor, on condition of their printing and pub-
lishing them. In June, 1791, fifteen years after the Obser-

vations
vations had been given to the university on this condition, and nearly thirty years after the death of Dr. Bradley, the Board of Longitude, fearing no prophet of their being published, passed several spirited resolutions, respecting the public right to their Observations, and the importance of the publication of them, which were transmitted to the vice-chancellor of the university; after considerate delay, in March, 1792, the Board was informed that the delegates of the prize in the university were proceeding with the work. About the same time in the following year the Board renewed its application to professor Hornby, under whose direction the Observations were to be published; and in reply, engaged that the first volume should appear on or before March 1794, in the following year. At length, however, after long delay and renewed application, and successive interruptions occasioned by the ill health of Dr. Hornby, the first volume was published in 1798, in a splendid form, more worthy indeed the magnificence of a great university, than suitable to the use of the practical astronomer; under the title of "Astronomical Observations made at the Royal Observatory at Greenwich, from the year 1750, to the year 1762," folio: the price in sheets being fifty guineas. Dr. Hornby, after having waited in a precise the causes of the delay attending the publication, proceeds to give some account of the instruments used by Dr. Bradley. The tables contained in this volume are "Observed transits of the fixed stars;" "Meridian distances of the fixed stars;" "Meridian distances of the fixed stars from the zenith, northward;" "Meridian distances of the fixed stars from the zenith, southward;" "With zenith fector;" and likewise "Apparent right ascensions;" the whole comprising 757 pages. Biog. Brit. Gen. Biog. Proceedings of the Board of Longitude in regard to the recovery of the late Dr. Bradley's Observations, &c. 1795, folio.

BRADLEY, Richard, professor of botany, in the university of Cambridge, fellow of the Royal Society of London, and foreign associate of the Academy of Sciences at Paris. He appears to have been indefatigable in his researches, and to have bestowed no less ingenuity than zeal for the promotion of his favourite study; yet no memoirs have been published of his life, and we only know the time in which he lived from the date of his several publications. "Historia plantarum fucculentarum," published in five parts, in 1716, 1717, 1725, 1727, and 1728, 4to.; they were afterwards published together in 1734, with figures. "A new improvement of planting and gardening, both philosophical and practical," first also in parts; and then collectively, in 1733, 8vo. In this he gives the anatomy of plants, and their sexes. He demonstrates the circulation of the sap, from the progress of a disease of the branch, downward to the root. He also brings, as a further proof, an experiment on the lime-tree, which being planted inverted, with the branches downward, produced leaves and flowers from the roots. "The virtues and use of coffee, with regard to the plague and contagious diseases," 1724, 8vo. with an engraved figure of the plant. "Philosophical account of the works of nature." He here also contends for the double sexes in plants. He gives an historical account of the principal gardens in Europe, and gives the preference to the public garden at Amsterdam. "New experiments relative to the generation of plants," 1724, 8vo. "Tentative concerning the nature of following ground, raising of grass beds, and training of line and hemp," 1724, 4to. "Survey of ancient horticulture and gardening, collected from the Greeks and Romans," 1725, 8vo. with many other similar works; also "Dictionarium botanicum," 8vo. 1728. in which he gives the medical properties and the countries from which the plants were originally brought. See Haller Bib. Botan. for a complete catalogue and account of his works.

BRADNINCH, in Geography, an ancient corporate and market town in Devonshire, England, is situated on the banks of the river Colnmb, in the great road from Exeter to Bath, 8 miles from the former, 2 from Collampton, and 163 W. from London. This barony belonged, in the time of Edward the Confessor, to Brickwood, a Saxon: and at present it is vested in his royal highness the prince of Wales. Bradninch sent members to a parliament holden at Westminster, the sixth year of Edward II., and likewise to another at Windor in the following reign; but on account of the trouble and expence, the members were excused from further attendance.

The original charter of incorporation was granted by Reginald, earl of Cornwall, (natural son of King Henry I.), who gave his seal to be used by them, which is still continued; the corporation consists of a mayor, recorder, twelve masons, a town-clerk, and twelve ferenets at mace.

The town consists principally of one irregular street, nearly a mile in length; the houses, in general, indifferently built, and covered with thatch, are estimated at 253, and the inhabitants 1157, who are nearly equally employed in agriculture and manufactures; of the latter, paper-making is the chief; there being within two miles of the town, five mills constantly at work.

Here are a market on Thursdays, and two fairs. The church dedicated to St. Denis, is an ancient edifice; the body and fourth aisle appear to have been built in the end of Edward III.'s reign, or early in that of Richard II. On the breaking out of a rebellion in the north of England, in the 28th year of Henry VIII., this town was appointed the head-quarters for the troops under the command of the marquis of Exeter, who was employed to act against the rebels.

BRADS, in Carpentry, a slender kind of nail, used in building, having no spreading heads as other nails have.

Of these, some are called "joiners' nails," and are for hard wainscots; others, "batten-rams," for soft wainscots; and some "bill-rams," or "quarter-heads," used when a floor is laid in halfe, or for shallow joints subject to warp.

BRADSBERG Lush, or jef, in Geography, a district of Norway, in the diocese of Chriftiania, containing the district of Tillemarken. The inhabitants are distinguished for their hardinesses and valour, and have been always accounted the most warlike people of Norway. In this district are several iron furnaces.

BRADWORTHIE, Thomas, in Biography, designated the "profound doctor," was born at Hatfield, in Suffolk, (according to Godwin), or at Harfield, in Suffex, (according to Bale), towards the beginning of the 14th century, and educated at Merton college, in the university of Oxford, of which he was proctor, in 1325, and where he took the degree of doctor in divinity. He was introduced to court under the patronage of Stratford, archbishop of Canterbury, and became confessor to Edward III. canon of Lincoln, and chancellor of St. Paul's cathedral in London. He accompanied the king in his warlike expeditions to France, and to his sanctity and prayers the supernatural of the aged abed the victories of this monarch more than to the bravery of the soldiers, or the skill of their general. In 1348, he was elected by the chapter of Canterbury, to succeed Stratford as metropolitan; but, in deference to the king and pope, who preferred John Ulford, he surrendered to him the archiepiscopal chair, but upon his death he was again
again elected, and confirmed by the king and pope. His consecration took place at Avignon, but his premature death prevented his being enthroned. As a theologian, and also as a mathematician and philosopher, he gained great reputation, and his character for an attention to the duties of his elevated station is highly commended. His works are lectures delivered at Merton college, and entitled "De caetu Dei, et de veritate caelestis contra Pelagium," libri ii. published by Henry Savile, in London, in 1613, fol.; "Geometria Speculativa," and "Arithmetica Speculativa," printed together at Paris, in 1513; and "Tractatus Proportionum," Venct., 1552. Moheim, probably referring to the first of the works above recited, says, "the learned Bradwardine, an English divine, advanced many pertinent and ingenious things towards the confirmation of Christianity, in a book upon Providence." Cave, Hist. Lit. t. ii. p. 429.


BRADY, ROBERT, a learned English historian and physician, was a native of Norfolk, and admitted, in 1643, to Corpus college, at Cambridge, where he took his degree of bachelor of physic, in 1673, and that of doctor in the same faculty, by royal mandate, in 1686. By the same mandate he was also elected master of his college. About the year 1670 he was appointed keeper of the records in the Tower of London, and some time after he was chosen regius professor of physic, in the University of Cambridge. A letter to Dr. Sydenham, written in 1679, and propounding certain questions, which were answered in Sydenham's "Epistle remonstrance due," is his only performance in the line of his profession. His practice was probably inconsiderable, as he employed himself chiefly in historical investigation, and was one of the representatives for the University, in the Oxford parliament of 1681, and in that of James II. in 1685. He was, however, physician in ordinary to the king. He, among others, attested the birth of the prince of Wales in 1688. He died in 1700. His principal historical works are, "An introduction to the old English history," and "A complete history of England, from the first entrance of the Romans unto the end of the reign of king Richard II." in 3 vols. fol. The first work was printed in one volume in 1684, and the sublitude of it may be comprised in the three following propositions, viz. 1. That the representatives of the commons in parliament were not introduced till the 40th of Henry III. 2. That William duke of Normandy made an absolute conquest of the nation. 3. That the succession to the crown of England is hereditary, and not elective. The second work was printed in two volumes; the first in 1685, and the second in 1700. The principal aim of Mr. Brady is to shew, that all the English liberties are derived from the crown by way of concession from the princes; and he addsuces a collection of copious materials, chiefly epitomised from Matthew Paris, in order to prove that the Normans imposed on the English nation their own system of laws and customs. The system adopted by Brady, in consequence of some hints resulting from his obligations to the crown, and his personal attachments, and ably supported, is the basis of the general doctrine maintained in Hume's history. To this purpose it is observed by the learned Dr. Gilbert Stuart, (View of Society in Europe, p. 327) that "Mr. Hume, truck with the talents of Dr. Brady, deceived by his ability, disposed to pay adulation to government, and willing to profit by a syslem formed with art, and ready for adoption, has executed his history upon the tenets of this writer. Yet, of Dr. Brady it ought to be remembered, that he was the slave of a passion, and that he meanly prostituted an excellent understanding, and admirable quickness, to vindicate tyranny, and to destroy the rights of his nation." besides his three volumes of history, Dr. Brady also wrote, "A treatise on Burghs," in a thin folio. Biog. Brit.

BRADY, NICOLAS, an episcopal divine, was licentually defended from Hugh Brady, the first Protestant bishop of Meath in Ireland, and born at Bandon in the county of Cork, in 1659. At the age of 12 years he was removed from Ireland to Westminster school, and from thence elected student of Christchurch at Oxford. After remaining in the University about four years, he went to Dublin, where his father resided; and in the University of that city he obtained the degrees of B. A. and M. A. and, afterwards, in a manner peculiarly honourable, he received the degree of D. D. His first ecclesiastical preferment was to a prebend in the cathedral of St. Barry, at Cork, and to the parish of Kinglashley, in the county of Cork, to which he was collated by bishop Wettenhall, to whom he was domelc chaplin. His attachment to the revolution, and his zeal in promoting it, exposed him to much suffering; and, such was his interest with Mr. Carty, king James's general, that in 1690, when the troubles broke out in Ireland, he thrice prevented the burning of his native town. Having been deputed by the people of Bandon to come over to England, for the purpose of petitioning parliament for a redress of some grievances which they had suffered, while king James was in Ireland, he resigned his Irish preferments, and settled in London. In this country he was much esteemed for his pulpit talents, and obtained several preferments, amounting in the whole to 600l. per annum; the lasts of which was the rectory of Clapham in Surrey, which he held, together with Richmond, to the time of his death. He was also chaplin to their majesties, king William and queen Mary, and afterwards to queen Anne. He died May 20, 1726, in the 67th year of his age. His works are a translation of the "Anecdotes of Virgil," published by subscription in 4 vols. 8vo.; "Three volumes of sermons, published by himself; and "Three other volumes," published by his son, in 1730; and "A new version of the psalms," in which he was assisted by Mr. Tate. This version was licensed in 1666; and is now used in most churches of England and Ireland, instead of the old and obsolete version by Thomas Sternhold and John Hopkins, made in the reign of king Edward VI. Biog. Brit.

BRADYPE, in Zoology, (in French) synonymous with Bradypus, the sloth.

BRADYPEPSIA, in Medicine, a term signifying slow digestion, from Bradys, sloth, and παίξις, concision. See Dyspepsia.

BRADYPUS, in Zoology, the first genus of animals in the order brutes, the character of which stands thus in Gmelin: no fore-teeth; grinders in each jaw fix, obliquely truncated, cylindrical, the two anterior ones longest, and far distant: body covered with hair. The species are tridactylus and didactylus, which see. Dr. Shaw defines the general character of the sloth, or bradypus genus, in a manner somewhat different from the preceding. He observes that there are no cutting-teeth in either jaw; that the canine teeth are obsolete, single, longer than the grinders, and placed opposite; grinders, five on each side, which are obsolete; fore-legs much longer than the hind; and the claws very long. The two species tridactylus and didactylus are obtained by this writer, under their old Linnaean names; a third species is also added, the urine sloth, bradypus urinatis, the uniform sloth of Pennant, and petre sloth of Cattan.

It should be observed, that the immense fossil skeleton, of which Mont. Cuvier has given an accurate description under the name of megalætherium, in the opinion of that writer, must have belonged to an animal much more nearly allied to the genus
BRA

genera bradypus, orloth, than to any other at present known. The skeleton of a whale was found in the vicinity of the river It is Plata in it, a helmeted cet beneath the surface of a family hall. It is 24 French feet long, and six in height. The original is at Madrid.

BRAE-MAR, in Geography, a mountainous district of Scotland, in Aberdeenshire, 7; miles N. W. from Aberdeen. In this territory the last Earl of Mar began to raise a rebellion in 1715.

BRAEG, a name given to a game at cards, from the nature of it; the principal stake being won by him who has the best hand, or who challenges the other gamblers to produce cards equal to his. In this game a pair of ace is the best hand, a pair of kings the next, and to this; and a pair of any sort wins the stake from the most valuable single card. The kneve of clubs pairs with any other card in hand; but a hand of cards of less value in this game has sometimes gained the stake from one of superior value, by the confidence and art of bragging: the contest being given up on the part of the latter through fear of losing. One stake is gained by the highest card that is turned up in dealing, three cards being dealt round to each player, and the last turn made; the highest card is the ace of diamonds: the other stake is won by the person who first makes up the cards in his hands one and thirty; each distinguished card palling for ten, and drawing from the pack. Each gambler deposits three stakes, one for each card.

BRAGA, in Geography, the Bracara of Antonius's itinerary, a city of Portugal, and capital of the province of Entre-Douro-e-Minho, is situated in a broad open vale, cultivated and shaded by trees, near the small river Cabeço. It is subject to the archbishop of the place, who has a revenue of above 100,000 escudos, and appoints judges and two tribunals, the one spiritual and the other temporal; so that this is the only city where the king does not appoint a corregidor, or a juiz de fora. In the courts, or privileged places round the town, his sentence is final in criminal affairs, but not on the inhabitants of the town. Braga contains about 13,000 inhabitants, 5 parishes, and 7 monasteries. Several of the streets are wide and open, but most of the houses are small. Among the objects of curiosity in this town, we may reckon the large old Gothic cathedral, with its antiquities and treasures; and also the church and monastery of São Fructuoso, with its treasures and relics, and standing very commodiously on a hill without the town. Braga claims a very ancient origin. The Romans called it Augusta Bracara, and Roman coins are often found in the neighbourhood. Although it has much declined from its former importance, it has a hat-manufactory, which supplies a large part of Portugal with hats for the common people; and it has an admirable manufacture of knives. It exhibits signs of industry and activity; and the women are everywhere seen knitting, weaving, or making linen. The rich inhabitants are reckoned very wealthy and unfeeling toward their neighbours in the other towns of Minho; and they are accused of being quarrelsome, fond of scandal, and of disgraceful manners. N. lat. 41° 25'. W. long. 8° 15'.

Braga, Ha, is now called Fort Dauphin, in the island of Cuba.

Braga, the name of a liquor brewed in Ruffia from wheat, which, as well as the beere, that is brewed only from malt, is turbid, foaming, affecting the head, and drunk by the common people. On the Terek, a sort of beer is brewed, called "terilatia braga," by foaming milk in warm water; and when it is found like milk, it is boiled, boiled soft, and so poured upon melted-ice and barley. By the malt the beverage is sweet, and in this flat oasts are added; it is then left to ferment, and the huks of the fluid driven from the drink, it is fit for use. It is of good colour, always turbid, rather clammy, distasteful to the palate, and very intoxicating.


Gen.Ch. Colfx none. Corol. one-petalled; tube globular, with ten stamens; border divided into three, equal, obtuse, recurved segments. Stem anthers fix, fiddle, oblong, adhering to the middle of the tube. Pfr. style thick; stigma concave; germ linear, inferior. Perianth long, quadraangular, four-celled, four-valved. Seeds, many.

There is only one known species, a shrub about five feet high. Leaves large, alternate, lanceolate, very entire, veined. Flowers in racemes, axillary, brown red. It grows on the mountains of Cochinchina.

BRAGANZA, in Geography, a city of Portugal, and capital of a dukedom of the same name, in the province of Tras-l-os-Montes, seated on a spacious plain near the river Ferreira. It consists of a city, fortified with towers and a castle; and a town, defended by a fort. Braganza contains two parish churches, two hospitals, four convents, and about 2700 inhabitants. It is one of the most ancient towns in the kingdom, and is said to have been built by Augustus. Its manufactures consist of silk flutes, velvets, and programs. It was erected into a dukedom by Alphonso V. in 1542. John II. its eighth duke, was crowned king of Portugal by the name and style of John IV.; and it confers the title of the present reigning family. N. lat. 41° 57'. W. long. 5° 45'.

BRAGANZA, a small town on the frontiers of the March of Trevianno, in the territory of the republic of Venise.

BRAGOT, derived from the old British word brag, which signifies male, and gots, a banchoor, a sort of drink made in some parts of England, of malt, with honey, spices, and other ingredients.

BRAGA, or Bregnetz, in Geography, a town of Norway, in a district of the same name, in the diocese of Christiana, seated on the side of the river Dramme, opposite to Storosmo and Tanger. These three towns lie in a fertile vale, at small distances from each other, at the bottom of some rugged rocks, and on the margin of a bay. They are distinguished by the general name of Dramme, because they are situated on that river. Each of them has its own church, and separate jurisdiction. The inhabitants are industrious, and carry on a considerable trade. The principal exports are timber and planks. The imports are chiefly corn, and led from England for smelting the silver ore at Kongberg. In the district of Bragnas-lehni there are several iron-works, and also a gruis-house. N. lat. 59° 45'. E. long. 10° 25'.

BRAGOS, a river of Spain, in Catalonia, which runs into the Segre, 6 leagues N. W. of Balaguer.

BRAGU POINT, lies at the mouth of the great river Awa (see Awa); and is supposed by M. Godfren (Geography of the Greeks and Latins) to be the "Magnus Promontorium," which M. d'Anville concludes to be cape Roman, at the extremity of the peninsula of Malaccas.

BRAGUZ, a town of Germany, in the county of Tyrol; 127 miles W. of Trent.

BRAHE, Tycho, in Biography, a celebrated astronomer, was the descendant of a noble family of Sweden, settled in Denmark, and born December the 16th, 1546, at Knudshof, a small lordship near Holmiborg in Scania or Schonen. His father;
father, Otto Brahe, having a large family, the charge of his education was undertaken by his uncle, George Brahe, who adopted him as his heir. This was a fortunate circumstance for Tycho, as his father thought literature inglorious, and wished all his sons to follow the military profession. After a course of private instruction in the Latin language, his uncle sent him, in 1559, to study philosophy and rhetoric at the academy of Copenhagen; where he was casually invited to the study of astronomy by an eclipse of the sun, which happened August 22nd 1560, at the precise time predicted by astronomers. Hence he was led to regard that science as divine, which accurately described the motions of the celestial bodies, and predetermined their relative positions. From this time he devoted himself to the study of astronomy, and by means of the tables of Stadius, which he purchased, he acquired a knowledge of the theory of the planets. In 1562, he was sent to study the civil law at Leipzig, in which he made a very considerable proficiency; but, in withdrawing the remonstrances of his tutor, and the application with which he was required to prosecute the study of the law, his predominant inclination led him to perfect himself in astronomy. With this view he expended the money that was allowed him for his private expenses, in the purchase of books, the difficult passages of which were explained to him by his private tutor Scultens; and by means of a small celestial globe, and nightly observations of the heavens while his preceptor was in bed, he became acquainted, in the course of a month, with the names and positions of the constellations, and the apparent motions of the celestial bodies. Inspired with the same ardent zeal in the prosecution of his favourite science, he acquired a competent knowledge of mathematics, without the assistance of a master, and invented several mathematical instruments. Having passed three years at Leipzig, it was his intention to have pursued his travels through Germany; but the death of his uncle in 1565, and the estate which was bequeathed him, required his return to his native country. Disheartened, however, in his favourite pursuits by his relations, he made the necessary arrangements of his affairs; and before the expiration of a year, he abandoned his country, and set out on his travels. Accordingly he first went to Wittenberg, and on occasion of the plague, which broke out in this town, he removed, in 1567, to Rostock, where an accident occurred that endangered his life. At a wedding-feast to which he was invited, a dispute arose between him and a Danish nobleman, on some subject of mathematics, which terminated in a duel; and having lost his nose in the conflict, he continued to supply the defect completely, by an artificial composition of gold, silver, and wax, that it could hardly be distinguished from the natural organ. From Rostock, Tycho continued his travels through the principal towns of Germany and Italy, and in 1569 he repaired to Augsburg, where he formed an acquaintance with the celebrated Peter Ramus, who admired his skill in the science of astronomy. After his return to Copenhagen, in 1574, he was favoured by his maternal uncle, Sten Bille, with a convenient retreat from the ceremonies of the court, and the intrinsic value of the capital, at his castle of Heritzvold near Kandtorp; which also afforded him a commodious situation for the construction of an astronomical observatory, and a chemical laboratory. During his residence with his uncle, Tycho, besides his astronomical researches, prosecuted, with his natural ardour, the study of chemistry, or rather of alchemy, to which he seems to have had an early inclination, with the chimerical view of obtaining the philosopher's stone, that he might amass wealth sufficient to enable him to settle in some foreign country. At Heritzvold he observed, in 1572, a new star in the constellation Cassiopeia. Soon after this period he incurred the resentment of his relations, by marrying a beautiful country girl, whose name was Christiana, and who was the daughter of a neighbouring peasant. Although he offered various reasons in justification of his choice, the connection with a person so far below his rank alienated his family from him; and they refused to hold any intercourse with, until Frederic II., interposed, and authoritatively effected a reconciliation. Tycho himself seems not to have repented of his choice; but found in his Christiana, to whom affection had attached him, a grateful companion, and an obedient wife. In 1574, he commenced his lectures at Copenhagen, by the express desire of the King; and in these lectures he took occasion to explain the theory of the planets, introducing his explanation by a learned oration on the history and excellency of astronomy, and the litter-ladies, with some remarks in favour of judicial astrology, a study no less congenial to the times than to the inclinations of Tycho himself. Disgusted by the conduct of his relations, and with his countrymen in general, our philosopher determined to quit Denmark and settle abroad. After travelling through Germany and Italy, he at length formed a purpose of fixing his residence at Bafle, to which he was induced by the fertility of the soil, the cheapness of living, the celebrity of the university, and the opportunity this situation would afford him of maintaining a correspondence with the astronomers of France, Germany, and Italy. With this view he returned to Denmark; but whilst he was preparing for his removal, he received an unexpected message from the King. Frederic, secretly apprised of his intentions, was unwilling that Denmark should be deprived of so great an ornament; and in order to retain him in his dominions, offered him protection, and, with a liberality which did honour to the monarch as well as to the philosopher, presented him with the island of Hven, and promised to erect the buildings and to provide the apparatus necessary for his scientific pursuits. He also settled on him a pension of 2000 crowns a year, and gave him a fee in Norway, and a canonry of Rosendal, which produced a thousand more.

This liberal offer Tycho gratefully accepted; and repairing to Hven, he was present, on the 8th of August, 1576, at the laying of the first stone of a magnificent house, which he afterwards called Uraniborg, or the Castle of the Heavens. This was a building 60 feet square, containing a spacious suite of apartments, an observatory, and a subterraneous laboratory; for the erection of which the King supplied 100,000 rix-dollars (20,000l.), and Tycho himself expended no less a sum. He afterwards constructed a detached building for his observatory, which he called Sterndberg, or the Mountain of the Stars. In this retreat he passed 20 years, and, by his observations and studies, greatly contributed to the improvement of the science of astronomy. He maintained ten or twelve scholars, whom he instructed in mathematics and astronomy, and whom he employed as his amanuenses in his observations. His retreat was not, however, that of an hermit, who secluded himself from society; but he lived in a frugal and hospitable manner, affording free access and liberal entertainment to all visitors. Among these were persons of the highest rank, such as Ulrice, duke of Mecklenburgh, with his daughter Sophia, queen of Denmark; William, landgrave of Hesse-Cassel; and James VI. king of Scotland, and afterwards James I. of England, on occasion of his repairing to Copenhagen in 1590 for the purpose of concluding his marriage with the princess Anne. James remained with Tycho eight days; and, on leaving him, made him a handsome present, granted him a royal licence for the publication of his works, accompanied with an honourable testimony to his talents and learning, and competed fomic
same Latin verses in his praise, more expressive of elegance and admiration, than remarkable for classic elegance. In 1592 Tycho had the honour of a visit from his own sovereign, Christian IV., then in the 15th year of his age; who ex- pressed great satisfaction in examining his astronomical and chemical apparatus, and proposed to him several questions on various points of mathematics and mechanics, and particularly on the principles of fortification, and the construction of ships. He was also highly delighted with a gilt tin globe, which represented the face of the heavens, and being turned on its axis, exhibited the rising and setting of the sun, together with the motions of the planets and heavenly bodies. The king, upon being presented with this curious machine, acknowledged the favour by the donation of a gold chain, and by an assurance of inviolable protection and encouragement. Notwithstanding these assurances, the ene- mies of Tycho, jealous of his merit, or offended by the violence of his temper, and the severity of his satire, con- trived, in 1596, under various pretences, to divert the young king’s attention, and to induce him to deprive the astrono- mer of his pension, his fee, and the canony of Roskilde. Thus deprived of the means of supporting his expensive establishment at Uraniburg, Tycho was reduced to the nece- ssity of quitting his favourite residence, and repairing to Copenhagen, where for a short time he continued his observa- tions. But the malicefulness of his enemies pursued him; and therefore, after having transported from Uraniburg all those parts of his apparatus which could be removed, he departed from Copenhagen with his wife and family, landed at Rosice, and remained a year at Wanbeck, with his learned friend Henry Rantzau.

About this time he published his astronomical treatise, intitled “Astronomia infinita mechanica”; and having dedicated it to the emperor Rodolphus II., who had a rule for mechanics and chemistry, he received from him an invitation to settle at Prague, whether he removed, towards the close of the year 1598. The emperor granted him a magnificent house, assigned him a pension of 2000 crowns, and promised him a fee for himself and his dependants. Here he seemed to have obtained a fixed settlement for himself, and his sons, and his scholars, among whom was the famous Kepler; but he did not long enjoy the advantages of this situation. About a year before his death, he felt symptoms of declining health, occasioned, probably, by his intense application, and by the chagrin he had suffered on his removal from Uraniburg; to which he was himself con- cious, though he concealed them as much as possible from his friends. But the immediate cause of his decease was a strangled, brought on by drinking more than he was acc- ustomed to do, at the table of a lord named Rosenburg, and by an immoderate abuse of wine; and attended with exasperating torments, which occasioned a violent fever, and a temporary delirium; in the paroxysms of which he was heard frequently to exclaim, “Ne frustra vivi X videar;” i.e. that he may not seem to have lived in vain. When the fever subsided, and he recovered his senses, he was well app- rised of his approaching end. In the prospect of it he gave necessary orders with composure and resignation, an- mitted himself with composing an extempore copy of verses, sung various hymns, offered up prayers to the Supreme Being, recommended to his family and friends piety and submission to the divine will; charged his sons, that none of his works should be lost; exhorted his pupils to perchance in their studies, and converted with Kepler on the abstruse parts of astronomy, and requested him to complete the Rodolphine tables which he had commenced for regulating the motions of the planets. Thus employing his last moments, he expired so quietly, that he was neither heard nor seen by any of those who were present, to breathe his last. He died October the 24th, 1601, in the 55th year of his age; and was very magnificently interred in the principal church at Prague, where a noble monument was erected to his me- mory. His wife, two sons, and four daughters, survived him.

Tycho Brahe was a man of moderate figure, with light red hair, and a countenance that was rather handsome. As to his mental powers, he combined energy and activity; and thus endowed, he was admirably qualified for arriving at thse eminent attainments by which he was distinguished. His merit as an astronomer is unquestionable; for though he rejected the simple and beautiful system of Copernicus, and endeavoured to reconcile the absurdities of the Ptole- maic hypothesis, he formed a system conformable to the more obvious phenomena, but which did not require any notion of the planet which we inhabit. To this system (for an account of which, see System) he was so zealously attached, that, in his last moments, he defined his favourite scholar, the great Kepler, to follow his hypothesis rather than that of Copernicus. For a further account of his discov- eries, as well as for a concise abstract of his history, see Astronomy. As a poet, Tycho wrote some Latin verses, which are not altogether delusive of classic elegance. He had also a taste for building; he drew the plan of the castle of Cronberg, and sketched the design for the noble mausoleum of Frederic II., which was executed in Italy, and erected in the castle of Roskilde. As a medical practitioner, he was fond of being consulted, and gave his advice and medicines gratis; he invented an elixir, which he calls an infallible remedy for epidemic disorders, and of which he published the recipe in a letter to the emperor Rodolphus. He was likewise a good mechanic, and constructed several automata, which he took delight in exhibiting to the pen- vants; and in his apartments at Uraniburg he had several contrivances, which were calculated to deceive and allanith those who came to visit and consult him. He was also very much devoted to the study of chemistry; and expended as much on the terrestial astronomy, as he styled it, as on the celestial; but he has left no writings on this subject. In- deed, his researches in this department of science, like those of his contemporaries, were directed to the visionary ideale- rata. To judicial astrology he was addicted to a degree that is truly astonishing; and he manifested a proneness to credulity and superstition, very unphilosophical to his learning and judgment. He was an attentive observer of good and bad omens; infomuch, that if he met an old woman on first leaving his house, or a hare crossing him upon his journey, he would instantly return home. He took pleasure in being con- sulted as a fortune-teller; and pretended, that his know- ledge of the heavenly bodies enabled him to observe horo- scopes, and to foretell future events. At his house at Uraniburg, he kept an infane person, who fat at his feet during the time of dinner, and whom he fed with his own hand; and he noted down any incoherent expressions which were uttered by this person, under a pretence, that the mind, in a state of emotion, was capable of predicting future events; and he even believed, that, if any inhabitant of the island was taken ill, this idiot could predict his recovery or decease.

As to his natural disposition, it was irritable, impetuous, morose, and inflexible; and he indulged a humour for rail- lery, to a degree that gave offence; but while he railed others without reserve, and becoming cautious, he was easily provoked by the raillery of others. If, however, we divert our attention from the unfaovourable to the brighter parts of
his character, we shall be justified in adopting the eulogy of his panegyrist Joffenus, in his "Funeral oration," who observes concerning him, that "his studies were life; meditation, delight; science, riches; virtue, nobility; and religion, his constant guide." Gaffius, in his "Equinorum Tychoeae Brachii Astronomorum Corporei vita," gives the following list of his principal writings:

3. "A treatise on the comet of the year 1577, immediately after it disappeared." Upon revising it nine years afterwards, he added a 10th chapter, printed at Uraniborg, 1599.
4. "Another treatise on the new phenomena of the heavens," in the first part of which he treats of the refutation, as he calls it, of the sun, and of the fixed stars; and in the second part, of a new star which had then made its appearance. 5.
6. "Nuremberg, 1602, and Frankfort, 1610. It was dedicated to Maurice, landgrave of Hesse; because it contains a considerable number of letters of the landgrave William, his father, and of Christoph Rothmann, the mathematician of that prince, to Tycho, and of Tycho to them. 6.
11. "The Rudolphine tables," revised and published by Kepler, according to Tycho's desire. 11.
14. "Hilfmann celestis; or, a history of the heavens, in two parts," the first containing the observations he had made at Uraniborg, in 16 books; the latter containing the observations made at Wittenberg, Prague, &c. 14.

The apparatus of Tycho Brahe, after having been transported from place to place, during his life, was, after his death, purchased of his heirs by the emperor Rodolphus for 22,000 crowns of gold. The persons to whom customarily they recommended them, concealed them from inspection; and thus they remained useless till the time of the troubles of Bohemia, when the army of the elector palatine plundered them, breaking some of them, and applying others to different uses. The great celestial globe of brass was preferred; carried from Prague, and deposited with the Jesuits of Neyfia in Silesia, whence it was afterwards taken, about the year 1633, by Udachec, son of Christian, king of Denmark, and placed in the hall of the royal academy at Copenhagen. Gaffius, uti supra. Moret. Cosse's Travels in Denmark, Kr. vol. v. p. 701, &c. 8vo. Gen. Dict.

BRAHELINNA, in Geography, a town and royal demesne of Sweden, in the province of Savolax.

BRAHESPAD, a town of Sweden, in the province of Eala Botnia, built by count Petter Brahe in 1624, and invested with the privileges of a town. It has a commodious harbour.

BRAHILLOW, or BAILIA, a town of Walachia, seated on the Danube, near the confines of Moldavia, opposite to Silistria. N. lat. 45°. E. long. 27° 14'.

BRAHIN, a town of Lithuania, in the palatinate of Mind.; 48 miles E. of Mozyr. Vol. V.
its nutrition, from the dura mater, than from the pericranium.

The dura mater, which is a very thin, dense, and inelastic membrane, consists of two layers, intimately connected in general, but separated from each other at particular parts, so as to leave vacuities between them called sinuses, into which the veins of the brain pour their blood. (For an account of the sinuses, see Venas, distribution of.) Its structure is obviously fibrous; the fibres not following any regular distribution, but intersecting each other in every direction. After being macerated for some time in water, it is resolved into a firm tenacious kind of cellular texture. The sides of the membrane are covered by the ramifications of the arrecta meningea media, which are very conspicuous on the mere removal of the skull cap, each branch being accompanied by two veins. (For the description of this artery, see Art. Arteries, distribution of.) In the middle of the superior surface of the membrane is a depression, extending from the lower part of the os frontis to the tentorium, which denotes the situation of the superior longitudinal sinus.

We also observe, on the upper part of the dura mater, clusters of little white granular bodies, termed glandula Pacchioni. These vary in number and situation; sometimes they rise in little heaps on the side of the longitudinal sinus, and are lodged in considerable cavities formed in the bone for their reception. In other instances the clusters of these glands are so small and few in number, that they may escape observation. In dissecting the brain, we are in the next place to cut the dura mater round on a level with the bone which we have torn, except in front and behind, where the falx is situated. We are then enabled to reflect it on either side, from those membranes which immediately invest the brain. Its inner surface is smooth and shining, and has no connection with the pia mater, except at the upper part, near to the longitudinal sinus. The connection at this part is of two kinds: one by means of large veins, which, coming from the surface of the brain, pass between the layers of the dura mater to terminate in the longitudinal sinus; the other by means of clusters of glandula Pacchioni, which adhere equally to the under layer of the dura mater, and surface of the membranes, which more immediately invest the brain. These glands are found not only in the outer and inner layers of the dura mater, but frequently they communicate and make one cluster through an opening in the membrane. They are also found attached to the inner surface of the longitudinal sinus. The use of these glands, as they are called, is not known.

The internal layer of the dura mater forms, by its secessation from the outer, a convexit for the support of the brain: the principal of these are, one which descends perpendicularly between the hemispheres of the cerebrum, and is called the falx cerebri, from the shape of its lower edge, and which proceeds transversely, supporting the back lobes of the cerebrum, and separating them from the cerebellum. As this is stretched across over the cerebellum, it is called the tentorium cerebelli. The falx is a duplicature of the internal layer of the dura mater, which begins to proceed from the external at the sphenoid bone, and inclines the critta galli of that bone. It proceeds in like manner from the spine, and from the middle of the os frontis, from the sagittal suture of the parietal bones, and from the upper half of the perpendicular ridge of the occipital bone, and it terminates behind in the tentorium, gradually increasing in breadth to its termination.

The arteria meningea media is the principal source of the arterial supply of the dura mater: it receives some small branches in front from the internal carotid, ophthalmic, and pharyngeal arteries: behind from the occipital and vertebral vessels. Its veins open into the nearest sinuses. The accurate researches of Lobel's and Wrisberg have shown that no nerves can be traced to this membrane. (See Comment Gutttingius: an. 1777, Ludwig collect. scrip. neurol. minor. tom. 1.)

After the connection of the dura mater with the subjacent membranes is broken, the front of the falx is to be divided from the cribrum galli, and that proceeds to be turned back from between the hemispheres of the brain. Then the brain and its immediate investing membranes become fairly exposed to our examination. These membranes were considered as one, and called the pia mater, till Ruyfch demonstrated that they were two. The outer one is uniformly spread over the visible surface of the brain, is of a pale white colour, yet in some degree transparent, very thin, devoid of evident vessels, and is named the tunica arachnoidea. It is seen most distinctly when it passeth between the two lobes of the cerebellum: in most other parts of the brain it adheres very firmly to the pia mater. Although the tunica arachnoidea has in its natural state no visible vessels, yet, when it is inflamed, its vessels become enlarged and evident, and there can be no doubt but that it contributes at all times to secrete its share of that liquor which separates it from the dura mater. In inflammation of the pia mater and tunica arachnoidea, it is common to have a turbid and sometimes puriform fluid effused between it and the dura mater, which is doubtless secreted by the inflamed membrane.

The membrane which lies beneath the tunica arachnoidea is called the pia mater; it covers the whole surface of the brain, sending down processes between all its convolutions. It is extremely vascular, and a great portion of the blood, which the brain receives, is spread out upon its surface in minute vessels: from these others proceed capable of admitting very suble injections. From the great number of vessels, which ramify on this membrane, Socinian calls this membrane, membrana vaeclusa cerebri. Its vessels are fewer and smaller where it covers medullary parts, than where it is in contact with the cortex. The processes which pass from its inside no where touch medullary matter. The outer surface is tolerably smooth; the inner universally villous, from the torn orifices of innumerable vessels which entered the substance of the brain.

The membranes of the brain having been examined, may be removed; and then the surface of the cerebrum is brought into view, which appears convoluted, so as to resemble the windings of the small intestines. These convolutions do not in general penetrate more than one inch, or one inch and a half, into the substance of the cerebrum. A very deep sulcus is however observed extending itself obliquely upwards, and backwards, from the alae of the sphenoid bone; and this is called the sifura magna Sylvii.

The encephalon or brain is divided into the cerebrum, cerebellum, and medulla oblongata.

The cerebrum is the uppermost portion, and by much the largest, and that which first claims our attention in dissection. It rests upon the tentorium and petrous portions of the temporal bones behind, and upon the sphenoid bone, and the orbitary processes of the frontal bones in front. Its superior surface presents a regularly convex oval, narrower in front than behind. This oval is divided into two equal parts named hemispheres, by a deep longitudinal sulcus, into which the falx cerebri descends. The depth of this cleft being greater than the breadth of the falx, the opposed plane surfaces of the hemispheres are loosely united below the inferior edge of the falx, by vessels and cellular sub-

stance.
flance. The hemispheres are conjoined below, and the part
which unites them can be perceived at a considerable depth
from the surface, by dissecting the hemispheres from each
other. It is about three inches in length, and is called
the corpus callosum. (In a singular instance, which occurred
to Mr. Carlile, the falx was deficient, and there was no division
into hemispheres. See Trans. of a Society for the
improvement of medical and chirurgical knowledge, vol. i.
p. 212.) Each hemisphere is divided into two lobes. This
subdivision is the consequence of the projection of the tran-
verse fissure process of the sphenoid bone, which divides
the bottom of it into two surfaces; and it is from this
division that the fissura Sylvii commences. All that part
of the hemisphere which is in front of the fissura Sylvii, and
which rests on the orbit, is called the anterior lobe; and all
that which is supported by the sphenoid ale, by the
petrous part of the temporal bone, and tentorium, is called
the posterior lobe. Such is Haller's division of the cerebrum,
which has been generally adopted by anatomists. Some
authors, however, divide the posterior or great lobe into two
parts, calling that portion of it, which rests in the middle
fossa of the half crani, the middle lobe of the brain; and
that which is supported by the tentorium, the posterior
lobe.

As there are no distinguishable parts in the upper portions
of the hemispheres of the cerebrum, so in dissection it is
 customary to pare all these away, nearly to the level of the
corpus callosum, in order that we may be able more easily
to open, and more particularly to examine, certain cavities
which are situated on either side of that body, and which are
called the lateral ventricles. On making a section of the
brain we perceive that it is composed of two substances,
an exterior one which is of a grey colour, and an interior one
which is white. These are termed simply the cerebral and
white substanacies, or sublunaria cinesa and alba; or, from
the former surrounding the latter, as the bark does the wood
of a tree, they are named in contra-distinction, the cortical
and medullary substanacies of the brain. The cortical part
receives so great a supply of blood, that after a successful
injection it appears almost composed of vessels; the medul-
lar substanacy on the contrary has very few vessels. In the
crura cerebri is a small portion of a black substanacy, named by
Soemmerring locus niger; and, in some places, a fourth
substanacy, partaking of the appearances of the cortical and
medullary matter, is described, as in the under surface of
the posterior lobe, and is named by Soemmerring portio
intermedia.

When the substance of the two hemispheres has been re-
moved by repeated horizontal sections, as low as the surface
of the corpus callosum, we see the greatest extent of
medullary matter, that can be demonstrated in the brain.
The medulla of the two hemispheres is united by the corpus
callosum. The margin alone is grey; all the rest is
white. This appearance is the centrum ovale of Villenuev:
The maximus medullae orbis of Soemmerring: a more complete
view of the corpus callorum is now obtained. This part is
overlapped by the edges of the two hemispheres, in such a
manner that it is completely hidden, until the hemispheres
are either held asunder, or removed by dissection. Its
length is equal to that of one half of the hemisphere, and it
is placed in such a situation, that a space equal to one third
of its own length is left, between its anterior extremity and
the front of the cranium, and another twice as long between
its posterior part and the back of the skull. The breadth of
this part is about 3/ of an inch, but less in front. Its upper
surface is convex. It turns downwards in front and behind,
so as to form two rounded extremities, which are the
bourrelets antieur and posteiior of Vieq d'Azyr. Two
prominent lines run through the whole length of the corpus
callosum, with a depression between them, which is called
the raphe. Transverse lines proceed from these on both
sides at right angles.

The two lateral ventricles (ventriculi tricornes of Vieq
d'Azyr) are situated in the substance of the brain, by the side
of the corpus callosum. (one in either hemisphere,) and should
be opened by an incision along the margin of that body.
The roof of the ventricle being dissected off, its course
becomes apparent. The cavity begins in the front lobe of
the brain, as far forwards as the commencement of the
corpus callosum. This portion of the ventricles, which is
formed between the front of the corpus striatum and the
medullary matter of the front lobe, turns rather outwards,
and is distinguished by the name of corna anterior. The
ventricle then runs from before backwards, in a direction
parallel to that of the corpus callosum, and diverging from
the opposite one. Afterwards it bends downwards, some-
ting like the turning of a ram's horn, and returns obliquely
from behind forwards, to terminate almost under its superior
extremity, being situated however behind that, and more
externally. This is the cornu inferior, or defensores,
or reflected horn of the ventricle. At the place where the
ventricle bends in order to run downwards, there is a par-
ticular elongation paining into the posterior lobe, forming
a triangular pointed cavity, terminating in a cul de sac, with
its point turned inwards. This is the digital cavity or
cornu posterior of the lateral ventricle. Its length and size
vary considerably in different subjects and often are very
dissimilar in the right and left sides of the same brain. It
sometimes extends quite to the posterior part of the back
lobe, and at others is barely demonstrable. This part of
the ventricle is peculiar to the human subjext and affinis.
These ventricles, and some other cavities, which will be
previously described, are lined with a smooth membrane,
and prevailingly described, are lined with a smooth membrane,
which serves to preserve the pareties of the ventricle separate and distinct
from each other, and to fill up the spaces which are left
between the convexities which constitute the sides of the
cavity. The diffe of hydrocephalus is a morbid increase of
quantity in this fluid, which accumulates sometimes to the
amount of some pounds, dilating and distending the ven-
tricles enormously. The learned Soemmerring, who may
justly be esteemed the first of modern anatomists, places the
fenestrum commune in this fluid. He has traced all the nerves
of the brain to the sides of the ventricles; and concludes, that
impressions made on these nerves will be transmitted to the
water of the ventricles, which he considers as the organ of the
foul. (See his dissection euer der mus organ der felle.
Borohn, 1796, 4to.)

The two lateral ventricles are separated by a perpendicular
partition, which depends from the inferior surface of the

The two lateral ventricles are separated by a perpendicular
partition, which depends from the inferior surface of the
corpus callosum to the fornix. This septum, which is broad
in front, grows gradually narrower behind, and, at the poster-
ior part of the ventricles, does not exist at all; the corpus
callosum and fornix being there continuous. It is com-
poised of two thin layers, separated above and uniting below
at an acute angle, so as to leave between them a triangular
cavity, called the fifth ventricle of the brain, or ventricle of
the septum lucidum. The corpus callosum may be cut off
from the septum lucidum, so as to shew the two layers and
interposing ventricle.

The fornix is composed of two crura, which arise in front
of the brain, from the corpora subrotunda. These, which are
round in shape, converge, and unite to form the fornix,
which lies between the two corpora fritata, and on the upper
surface
 BRA

Office of the thalami nervorum ep ACTM. It separates behind are two posterior horns, which are thin, broad, and flat, and pass into the reflected horns of the ventricles, where they run along the front of the hippocampal major, and soon terminate. Their posterior margin is connected to the hippocampus, the anterior is broad and floating, and forms the bandelette du hippocamp of Vicq d'Azyr. The triangular space left between the posterior horns fornices, where they diverge to enter the reflected horns of the ventricles, is filled up by medullary matter marked on its under surface by several oblique lines; it is called trigonium pteralium, or corpus pteralium. It may be regarded as the under surface of the corpus callosum. The origin of the fornix in the front of the brain is situated at some distance from the corpus callosum; it diverges gradually in an arched manner, until it reaches the under surface of the corpus callosum, before its separation into the posterior horns. On this circumstance depends the different breadth of the septum lucidum in the front and back part of the ventricles. Under the anterior part of the fornix is a small slit-like opening, by which the two lateral ventricles communicate. This aperture is just in front of the thalami nervorum opticiun, and precisely over the fornix commune anterior. It becomes considerably enlarged, in cases of great accumulation of fluid in the ventricles. The communication between these cavities would be much more extensive, did not the fornix behind this aperture adhere to the choroidal plexus and velum, which intervene between its under surface and the optic thalami. The thin edge of the fornix, and of its posterior horns, receives vessels from this vascular membrane. The fornix should now be cut through opposite to the communication just described. By turning up the anterior part of this body, its origin is by two distinct horns becomes clear, which would not be satisfactorily made out on the upper surface. By reflecting the posterior part, the pteralium, the separation of the posterior horns, their course, flat shape, extenuated margin, and pointed termination on the hippocampus, will be clearly exposed.

In this stage of the dissection, the situation and connections of the choroidal plexus may be traced. This is a production of the pia mater, containing a vast number of tortuous, arterial, and venous ramifications, entering the reflected horn of the ventricle, and ascending into the superior part of the cavity. It is broader and lower below, diminishes in size, as it proceeds along the upper part of the ventricle, and terminates just at the opening of communication between the two lateral ventricles, by joining the opposite plexus. The right and left plexuses are joined together by a middle expansion under the fornix, which is the velum, five plexus choroides interpositus of Haller, or the rete, or tela choroides of Vicq d'Azyr, who has illustrated these parts by the most beautiful coloured plates which have ever been published on any anatomical subject. (See particularly Tab. 7, also Tab. 5, and 8.) The two plexuses, with the intercommunicating velum, cover the hippocampi majores, the pineal gland, and upper surface of the optic thalami. They support the fornix and pteralium, intervening between them, and the optic thalami, and giving blood-vessels to all the parts just enumerated. When successfully injected, these plexuses resemble a mere net-work of blood-vessels. They contain numerous little glandular bodies, which are often enlarged, so as to resemble hydatids. The veins of the choroidal plexus form a large trunk situated in the middle of the velum, and named the vena magna Galeni. This, passing in the angle of connection of the fells and tentorium, constitutes the torcular Herophili. The choroidal plexuses and velum should now be reflected, to expose clearly the eminences which form the fids of the lateral ventricles. We now see, in the middle of the under surface of the velum, a small and narrow portion of plexus, which was first described and represented by Vicq d'Azyr under the name of plexus de la glande pinacale ou du troisieme ventricule. (Tab. 7, fig. 4, p. 21.) The anterior and superior eminence in each lateral ventricle is oblong, smooth and grey on its surface, but composed internally of a fibrillated mixture of cortical and medullary substance, whence it derives the name of corpus striatum. The more deeply we cut into this body, the more complicated does its fibrillated texture appear. The corpora striata are large, convex, and near to each other in front; they diminish in size, and diverge behind, being separated by the optic thalami, and presenting on the whole a pyramidal appearance. The posterior eminence of the lateral ventricle is called the thalamus, or colliculus nervi optici. It is found behind, within, and rather below the former. Its surface is white, but the interior of the body is formed of a fibrillated intermixture of cortical and medullary matter; in shape, it is nearly hemispherical, except that it is surrounded above by a more or less prominent oval tubercle, which extends from before backwards. The convexities of the optic thalami are turned towards each other, and are connected by a crenulated union, which is called the middle commissure of the brain, or soft commissure of the optic thalami. This union, which is naturally of a soft and delicate nature, is torn by the mere weight of the parts, when the brain has been kept a few days before it is used for dissection. Hence some anatomists have denied its existence altogether. This is the opinion of Sabatier, derived, as he says, from the most exact observation and very numerous dissections. (Traité d'Anatomie, tom. ii. p. 32.) The careful examination of a recent brain will show the error of this celebrated anatomist; and if authority be required on a point which can be made the subject of demonstration, it will be sufficient to cite the names of Vieussens, Winslow, Morgagni, Soemmerring, and Vicq d'Azyr. These bodies separate from each other below, and form a cavity, which is the third ventricle of the brain. The thalamus neri optici is separated from the corpus striatum, by a whitish, fibrous, and flat cord, which is broader in front than behind. This arises from the front of the third ventricle, and following the posterior margin of the corpus striatum, was named by Willis limbus posterior corporis striati. It descends into the inferior horn of the ventricle, and terminates on the upper surface of that cavity. This part is the centrum geminum f.uncirculari of Vieussens, the tensor f.uncularis of Haller, bandelette f.uncic of Vicq d'Azyr, and thia cornae of Soemmerring. The posterior and reflected horns of the ventricle contain certain eminences, which are named hippocampi. The posterior margin of the corpus callosum mixes on either side with the medullary matter of the brain, and produces in the digital cavity one or more small projections, corresponding in direction to the course of the cavity, and named colliculi, or angulus caveus posterioris ventriculi lateralis (pert., or hippocampi minor of Vicq d'Azyr).

In the descending horn a very large and conspicuous medullary body is seen, extending to the termination of the ventricle, where it forms a bulbose extremity divided by three or four furrows, in such a manner as to bear an obsevere resemblance to the foot of an animal. The eminence is named hippocampus major, or cornu Ammonis (proc. cebcri lateralis Soemmerring de corporis homani fab. tom. iv. § 36.), and its termination pes hippocampi.

It is necessary to remark in this place, that the hippocampi are continuations of the medullary matter, which forms the corpus callosum; and that the corpus callosum itself,
itself, the septum lucidum, fornix, and pia mater, are parts of one continuous medullary body. To understand clearly the relative position and connections of these parts, it is absolutely necessary to refer to the proper source of all anatomical description, dissection of the parts, which will show how inadequate a notion of these circumstances is obtained from the belt description.

An oval opening is seen between the optic thalami in front, named the foramen commune anterius, which leads into the third ventricle. As it is situated under that part of the fornix, which is not adherent below, it opens by means of the slit above mentioned, as forming the communication between the two lateral ventricles, into each of these cavities. Hence they communicate with the third by means of this aperture. The foramen commune posteriors, which open also into the third ventricle, is a triangular space left between the optic thalami at the posterior part, and only exposed when the choroid plexus and velum have been reflected.

On drawing the thalamus, and separating its soft commissure, we expose a considerable oblong cavity, which is named the third ventricle. In front of this a round medullary cord appears just under the anterior cura of the fornix, which passes tranverse between the two hemispheres, and is continued in a distinct form, for the space of an inch, into the substance of the brain on each side, as will be best seen by a transverse section. A similar body is seen at the back part of the ventricle, which is not however produced into the hemispheres like the anterior one; these are the anterior and posterior commissures of the brain. There is a round aperture under the anterior commissure, beyond which the ventricle terminates by a pointed and conical extremity, from which a small and short cylindrical process is continued to the pituitary gland, under the name of the infundibulum. It is a matter of dispute among anatomists, whether or not this process be hollow. The foramen commune anterius leads through the third ventricle into this opening. Just before the posterior commissure a round opening is found leading through a short canal, in front of the tubercula quadrigemina, into the fourth ventricle. The canal of communication is named canalis medius, iter ad quartum ventriculum, or aqueductus Sylvii.

The pineal gland, or osarum, is found at the back of the optic thalami. Its size is about that of a small horse-bean; its colour a reddish grey; its shape more frequently conical. Two small medullary cords connect it to the posterior commissure and to the optic thalami; they are intercepted in the convex part of the thalamus, and form a distinguishable prominent line, extending quite to the front of that body, as it is very beautifully represented in the 8th plate of Vicq d'Azyr. This gland is covered by the velum, and has immediately over it the two small plexuses, which have been already described under the name of plexus de la glande pineale.

In the substance of the pineal gland, or in the medullary matter, which connects it to the optic thalami, there is found a small quantity of a gritty matter nearly resembling sand. It consists of a number of little translucent and light yellow grains. Soemmering, who first discovered that this was a part of the healthy structure of the brain, calls it the acervulus of the pineal gland. (Dissertatio de lapillis intra vel prope glandulam pinealem fistis, in Ludwig. collect. sect. neurolog. minor. tom. iii.)

The pineal gland rolls on a square portion of the brain, which is seen behind and below the optic thalami, and below the level of the tentorium. The surface of this is divided into four projections or tubercles, and hence it has acquired the name of corpora quadrigemina. Of these bodies the two superior are larger and more plane; the inferior more convex. From the lower bodies a medullary production extends to the upper part of the crura cerebelli. Vicq d'Azyr described this part by the name of the valvula magna cerebelli, supposing it to perform the office of a valve to the fourth ventricle. Vicq d'Azyr, whose incomparable plates throw new light on this as well as on every other part of the subject, calls it the "lame medullaire du cerelet." The lateral portions of this production constitute partly strong medullary bodies, which are the "processus cerebelli ad efferentes" of Haller, "les pedonecales ou colonnes de la lame medullaire" of Vicq d'Azyr. The interval between these is filled by a very thin medullary plate, the velum intermedium of Haller, which is the part commonly known as the valve of the brain. This valve forms the roof of the fourth ventricle; therefore, if air be impelled into that cavity from the canalis medius, the valvula cerebri is elevated, and we can perceive the fourth pair of nerves arising from it; the origin of this nerve evidently projecting from the surface of the valve.

On lifting up the posterior lobes of the cerebrum, a transverse production of the dura mater, called the tentorium, comes into view. This is attached to the internal transverse ridge of the occiput, and posterior angle of the parietal bone behind, and to the sharp margin of the petrous portion of the temporal bone in front, as far forwards as its connection to the body of the sphenoid bone, where it terminates in a pointed form. This process therefore separates the cavity, which holds the cerebellum, from that part of the cranium which contains the cerebrum. The vacany left in its anterior part, opposite to the basilar process of the occiput, transmits the commencement of the medulla oblongata. The middle of the tentorium, which has the termination of the falx fixed to it, is elevated; the lateral portions of the process are rather sloping.

The tentorium should be divided on either side, in order to expose the cerebellum, which then appears lying in the posterior fossa of the occiput. This is divided into a right and left lobe by the falx cerebelli, which is a small process of dura mater, attached to the lower part of the perpendicular ridge of the occiput.

The rest of the encephalon should now be removed from the cranium, that the fourth ventricle and basi of the brain may be considered. In doing this, we lift up the anterior lobes, and detach the different nerves as they go out of the cranium, cutting them near to the brain on one side, and near to the apertures by which they quit the skull on the other. The pituitary gland is to be scooped out of the sella turcica, and the medulla spinalis to be cut across as low down as possible.

The part which has been taken out should be laid on a plate, in the same situation which it held in the cranium, that the fourth ventricle may be demonstrated. This cavity is formed between the upper and posterior part of the medulla oblongata, and the middle anterior part of the cerebellum. It extends laterally to a considerable distance in the crura cerebelli; a groove runs along the middle of the medulla oblongata, which constitutes the front of the ventricle, and terminates in the end of the cavity in a point. From the lateral productions, and the pointed termination of the cavity, it has been named the calamus scriptorius. Its shape indeed bears considerable resemblance to a pen, except that it is much larger. To describe its boundaries more accurately, we may state, that it has four ridges or paretises. The superior is formed by the valvula cerebri, the lower and anterior by the back of the medulla oblongata, the two lateral by the crura cerebelli, and in part by the thick portions of the valve, which unite the crura cerebelli.
part, which is divided into four convexities, of which the two superior are named corpora olivaria, the two inferior corpora pyramidalia.

For the most ample and satisfactory information on the anatomy of the brain, we refer the reader to the Esceulatonia Nuova universale di Vincenzo Malamani, Turin, 1780; the "Traité d'Anatomie de Substanter," vol. ii.; the fourth volume of Soemmerring's "De corporis humani fabrica," and his differtation "Ueber das organ der Seele." Above all, however, the "Traité d'anatomie, et de physiologie, avec des planches coloriées," Paris, 1786, Ed. of Vico et Azy, requires the greatest commendation. In this superb work all the parts of the brain are represented of their natural colour, with such fidelity and beauty as renders it, beyond dispute, the grandest book, which has ever been published in illustration of the human frame.

We shall subjoin to this description of the brain, a brief account of the anatomy of the medulla spinalis, and nerves. Thus, we shall include in one article, the structure of the foramen, of the organs which transmit impressions to it, and convey the determinations of the will from it; which are only to be considered as parts of one circle of actions.

Structure of the Medulla Spinalis.

This part is a continuation, as we have already mentioned, from the medulla oblongata, which is formed by the union of the medullary appendices of the cerebrum, and cerebellum. The bulbous portion, which we have before described as forming the corpora pyramidalia and olivaria, is the commencement of the medulla spinalis; although, as it is contained in the cranium, the term of spinal marrow cannot, with strict propriety, be applied to it.

The medulla spinalis consists externally of medullary matter; on making a transverse section, we find a portion of connective substance in the centre, consisting of two fibres, which cross each other, thus X. When covered by its membranes, it is of a firmer consistence than the brain; but it quickly dissolves when laid bare. Its form is nearly cylindrical, but it is compressed before and behind. A groove extends along its anterior and posterior flat surface, and these impressions seem to divide it into two cords. It is larger in the bottom of the cord, and towards the lower part of the back, than in the intermediate spaces. It contracts in the lumbar region into a conical form, and terminates by a small filament, which is fixed to the bottom of the sheath of dura mater.

It sends off a pair of nerves at each interval between the vertebrae, which are named cervical, dorsal, lumbar, or facral, according to the region in which they arise. These nerves are produced by two fasciculi of fibres, one of which comes from the front, the other from the back of the cord. These are separated by a membrane, which will be presently mentioned, and penetrate the dura mater by two distinct holes, after which they unite to form a ganglion. The arteries of the dura mater are derived from many sources; the vertebrai furnish an anterior and posterior one. The others are derived from the cervical, intercostal, lumbar and facral arteries, which enter at the openings, through which the nerves go out, and communicate with the spinal branches of the vertebrae, so as to keep up their force to the end of the medulla spinalis. The veins, which are also numerous, pour their blood into two longitudinal sinuses, formed in the dura mater, which lines the vertebral canal, and extending the whole length of that canal. These communicate together by transverse portions at the intervals of the vertebrae. They communicate in the neck with the vertebral veins; in the back, with the intercostals; and below, with the lumbar and facral veins.
The spinal marrow is covered externally by a production of dura mater, which extends from the great occipital foramen to the bottom of the facia, connected throughout to the vertebral canal, by a loose cellular and adipose substance; and at the intervals of the vertebrae by the conical processes, which it attaches to the commencement of the nerves. The tunica arachnoid is much more loosely connected to the vacular membrane, than it is in the brain.

The pia mater surrounds the spinal marrow very closely, inasmuch that, in making a transverse section, the medullary matter protrudes from the cut surface. The medulla spinalis is connected at the side to the dura mater by small portions of membrane, which are found between the anterior and posterior origins of the nerves, and are inserted in a pointed manner into the dura mater; it is called ligamentum dentatum. For descriptions and representations of the medulla spinalis, the reader may consult Huber de medulla spinalis, Goetting. 1741, which is also contained in the Icones of Haller; Monro's observations on the nervous system, and Fratlicher decretito medullae spinalis cum icone, Erlang. 1783.

Structure of the nerves.

The nerves are felt, white and fibrous chords, nearly of a cylindrical shape, arising from the brain, or medulla spinalis. When they leave the brain, the pia mater collects the fibres into larger or smaller fasciculi, which can be seen without any previous preparation, by making a longitudinal or transverse section of a pretty large trunk. Where the nerves penetrate the dura mater, they are firmly connected to the margin of the opening, and have been supposed to receive an external cost from that membrane; this, however, is only true of the optic nerve. The medullary filaments of the nerves are covered by a vacular membrane called by Reil neurilema, which detaches proceeds from its inner surface, to surround and inviolate the smaller divisions and fibres of the medullary substance. Byimmerging a nerve in alkali, the medulla of the nerve is dissolved, and the contained membranous tubes formed of neurilema are left. Acids dissolve the neurilema, and leave the medullary fibres. These organs receive a considerable supply of blood from vessels which ramify on the neurilema, as those of the brain do on the pia mater. The cellular texture, which constitutes the vacular membrane of the nerve, is resolved on its surface into a loose substance, which connects the nerve to the surrounding parts. By maceration in water, and careful diffusion, a nervous trunk may be separated into numerous threads; and each of these, when examined in a microscope, forms to be an assemblage of proportionally smaller fibres. Greater magnifying powers show these fibres, which before appeared single, to be still composed of smaller threads; and it is doubtful, whether the ultimate nervous fibre can be discovered. All that is said, therefore, of the form, conus, &c. of these ultimate fibres, is wholly conjectural. Microscopic observations, however, show many transverse thickenings in the substance of nervous trunks, of a more lucid appearance than the rest, which disappear on stretching the nerve, and are restored by again letting it loose. This appearance characterizes the smallest perceptible fibres, and enables us to distinguish them from muscle, tendon, &c. Fontana probably alludes to this circumstance, when he calls the nervous fibres, waving cylinders. The fibres do not proceed in a straight uninterrupted course, but join frequently with each other, so that, according to the expression of Monro, they form a plexus in each nervous trunk. The experiment of Reil, of immersing the nerve in nitric acid, to dissolve its membrane, shews this, as well as microscopic observations. A nerve, when divided in the living subject, retracts: the medulla is expressed from its extremities by the contraction of its membranes, in the form of globules, more copiously, according to Prochaska, from the upper, than the lower end. This protrusion of the medullary matter takes place in a less degree in the dead subject. If a nerve be cut in a living animal, and he be killed at some period after the operation, it will be found, that the divided extremities have swollen into a small tube, and that they are connected by a new formed matter. Anatomists have disputed greatly, whether or not this were real nerve, whether it was a regeneration of medullary matter. As it would not probably be very easy to decide this question, by merely anatomical testimony, from our ignorance of the minute structure of these organs, it appears most philosophical to inquire, whether the new matter will perform the functions of a nerve; and this has been completely proved by the experiments of Dr. Haighton, in the first part of the Philosophical Transactions for the year 1795. In some parts of the nervous system, little tubercles or knots, called ganglia, are found in the course of the nerve; and are usually formed by the concurrence of several branches. These bodies are of various figures, but generally flattened. They partake more of the red colour, than the trunks of the nerves on which they are formed, as they possess more numerous blood-vessels. They contain several nervous fibres, distinguished by their peculiar characteristics, and surrounded by a pretty firm vacular substance. The fibres communicate in these bodies, and each nerve which goes from a ganglion, is said to possess some fibres of every other nerve which joins it. For a further account of the structure of nerves, the following works may be consulted: Reil Exercitationes Anatomicae Prochasiae de Structura Nervorum; Monro's Observations on the Structure and Functions of the Nervous System; Arman verifique an lebendigen Thieren; Fontana Traite sur le Venin de la Vipere, &c.; Haebe de ganghia nervorum; Scarpa Annalientes Academicae.

Brain, Physiology of the. Having described the anatomy of the brain and nerves, we proceed in conformity to the arrangement adopted in this book, to speak of the functions or physiology of these organs. The first circumstance which it appears necessary to discuss in this intricate and interesting subject, is the inquiry respecting the place in which sensation exists. There could scarcely be any thing more difficult than to convince a person who has never thought on this point, that feeling resides solely in the brain, and that its beliefs, that it exists in the tangible extremities of the nerves, is a deception; and yet there is nothing of which men of the strongest minds, and who have most attended to the subject, are more perfectly convinced. The circumstances which have induced them to entertain this belief are, 1st. that if the continuity of the nerve between the extremity which receives impressions from the objects of feel, (and which we shall, therefore, call the tangible extremity of the nerve,) and that extremity which terminates in the brain, (which is usually denominated the sensorial extremity,) be by any means intercepted, both feeling and voluntary motion are suspended. 2dly, The false judgment which the perceptive forms of corporeal disorders, confirms this opinion. If a nerve be irritated at the middle space between its origin and termination, severe pain is suposed to be felt in those parts to which it is distributed; and if it supplies muscles, they become convulsed. If a diffuse forms about the hip-joint, or in the loins, the patient frequently complains of violent pain on the inside of the knee, without advertance to the real seat of the disorder. And people who have had their limbs taken off, can scarcely
It is believed that they are removed from their bodies, in consequence of the pains and sensations which they seem to feel in them. In either of these cases motion is produced in the middle of a nerve, which being transmitted to the brain, is attributed by the perceiving to a disordered state of the parts, from which it had been accustomed to receive impressions. Again, if a certain degree of pressure be made on the brain, all sensation and voluntary motion are interrupted. As these circumstances have been so well explained by Haller, we shall not enlarge on this subject, but proceed to consider the means, by which this transmission of motion from one end of the nerve to the other, is probably effected.

From the earliest times in which men contemplated the animal economy, reflecting persons imagined, that they perceived some subtle invisible agent, which operated in the performance of the animal functions. Hippocrates attributed actions, which he could not otherwise account for, to something which he called nature; Paracelsus, to the operation of an archer; Stahl, to different unities; and Harvey seems to have had an idea of a vital principle. But it may be seen, that such opinions, the credit of which discredited that a subtle invisible matter was diffused throughout living bodies, and was the cause of many phenomena occurring in them, belongs to Mr. Hunter. This opinion he has endeavoured to prove by experiments, which will be noticed under the article Life. The most conclusive arguments in favour of this opinion will probably be given under the physiology of Muscles, in elucidating the cause of muscular motion, and to these the reader is referred.

It has been customary to consider matter as passive, and to denominate the active power which puts it in motion, by the name of spirit; but we relinquish the pursuit of the primary cause of the motions of matter, because we know nothing of the substances which we usually denominate matter or spirit. These appellations have been given to them from their properties, which we do know. We know nothing of matter, but some of the properties which different species of it possess. Of that matter, which, for the most part, presents itself to our notice, when collected together in such quantity as to be cognizable to the eye and touch, we know that it possesses a property, called by Sir Isaac Newton inertia, an indispersion to move, unless impelled to it, and a propensity to continue in motion, unless retarded. But there are other substances in the universe which are usually considered as material, such, for instance, as electricity and magnetism; the motions of which do not seem to be regulated by the same laws, and which are cognizable neither to the eye nor touch, but of the existence of which reason furnishes us with the most indisputable testimony. Of these kinds of subtle and mobile matter, we know that they frequently act upon, and put in motion that which is more gross and inerte. We fix, magnetism move even ponderous pieces of iron, and electricity diffuse and disperse the most inelastic substances which oppose its passage. The reasons for entertaining the opinions of Mr. Hunter, that there is a fluid, mobile, and invisible species of matter connected with the evident structure of living bodies, as magnetism may be transferred to iron or electricity to various substances, will be detailed under different articles in this book. At present, we claim permission to employ this explanation of the phenomena of life, because there appears nothing improbable in it, or inconsistent to prevent philosophical notions; and it is a supposition, which appears, not only verifiable, but adequate to account for the phenomena which occur in living bodies. By employing this mode of accounting for the actions of life, we avoid all inquiry into the primary cause of the motions of matter; we contemplate only a secondary cause, such as takes place in electrical and magnetic experiments, in which a subtle species of matter puts in motion that which is more gross and inerte.

If it be admitted, that sensation extails in the brain, and volition proceeds from that part, it necessarily follows, that a motion must be transmitted along the nervous cords, whenever these effects take place. It was formerly supposed that these cords were passive, and might be made mechanically to vibrate; but their want of elasticity and tension, and their pulpous origins and terminations, are circumstances which rendered this supposition inadmissible. Physiologists were, therefore, induced to suppose, that the nervous fibres were tubular, and that they contained a subtle fluid, by means of which such motions were transmitted. Haller's opinion of the nervous fluid appears sensible and according to the philosophical opinions of his time. He says, "Si vero cogitata nostra de ipfa natura spirituum proveferer jubemur, actium ad motum a voluntate et a fehlic concipiamus aptimum calceum omne fermentum acie fabulatun, tamen hactenus igne et atheere et electo, et magnetica materie crausius facere elementum, ut et contineri vallis in vinculis coercer aptum fit, et desinque manufiun ex cibus maei et reparati quasi." But, at present, no one will doubt the possibility of a subtle and mobile fluid inhering in cords, and moving along them without being contained and confined in tubes. Does not electricity move along a wire? and is it not probable that a subtle fluid may inher in a substance, in consequence of an attraction which it possibles to it, and more particularly, if the substance which attracts it is surrounded by others, which may be regarded as non-conductors. The celerity with which motions are transmitted from the tangible extremities of those nerves which are most distant from the brain, and the celerity with which volition is transmitted to muscles in consequence of sensations thus occasioned, are sufficient to convince us that these effects must be produced by the medium of a very mobile matter. It is not necessary to suppose, when motions of a subtle matter are transmitted along the nervous cords, that an evident motion of the visible matter of those cords should take place. This opinion, that sensation is caused, and volition directed through the medium of a subtle, invisible matter, inhering in the nervous cords, is so like the opinion of Hartley, of the phenomena of the nervous system being produced by the vibrations of an ether, that it is not necessary, in this place, further to prosecute the subject. We rather refer the reader to his work, for a more ample illustration of this theory.

Formerly it was supposed, that the motions of the nerves, which cause sensation, were the mere effect of an impulse made on their tangible extremities by the bodies which we feel. It seems to be an improvement in modern physiology, to impute the nervous motions to an action begun in them, in consequence of the stimulation which they suffer from such impulses. This opinion is contended for by Doctor Darwin, in his paper on "Ocular Spectra", inserted in the Philosophical Transactions; and Mr. Home has further shown, in the Croonian Lecture for the year 1807, inserted in the Philosophical Transactions, that nerves have an irritability resembling that of muscles, which produce a contraction in them when they are divided. This opinion affords us an understanding how our sensations may be very vivid from the slightest impulses; such as, for instance, take place from the application of the particles of odour to the olfactory nerves, for it is not the impulse, but the consequent action, that is transmitted to the sense organ; and why we
We may have no sensation from the most violent impulses, for such we cannot but suppose to take place when a limb is removed by a cannon ball, a circumstance which has happened without the consciousness of the person to whom it has occurred.

These hypotheses appear to us adequate to explain all the circumstances that have been noticed relative to the functions of the nervous system. To review the circumstances, even with the greatest possible brevity, would render this article too extensive. Yet, there are some particulars which the reader may expect that we should advert to. Of these, it is right to mention, that the disposition of the nerves to act, is increased, as the causes exciting their action is diminished. This circumstance has been expressed, we can scarcely lay explained, by the late Doctor Brown, in his "Elementa Medicina," by saying, that the excitability of the nerves is augmented in proportion to the deficiency of the exciting causes. This fact is productive of consequences which appear particularly beautiful and useful; it furnishes a power of accommodation in our senses to the varying circumstances of life. Thus, for instance, a person confounded in the dark, shall receive the impression of light from a very small quantity of light, and his eyes would even be injured by the common day-light. The reverse of this is equally true: that a person shall live in a strong light, till his eyes become accustomed to it, that a lens quantity shall not produce a proper impression; or a person, who has long been in a still and silent place, shall hear the slightest sound, such as would be imperceptible to one whose auditory nerves had, for some time, been accustomed to the forcible impressions of the air, made by loudlyounding bodies. This power of accommodation does not only belong to particular senses, but it will bear a more universal application. A person, living a luxurious life, who avoids every sensation which gives him the leaf unease, and who attends only to the gratification of his pleasures, renders his nervous system too sensibl e; he shrinks at the cold wind, he is flattered at a loud noise; and every rough impression, which would not disturb another, owing to his ill-judged indulgence, distresses him. Let us remark the contrast in a hardy seaman, who has induced the inclemency of the weather, who has sustained fatigue and pain: if the winds blow, or the cannon thunder, he bears the one, and feels the other, but they do not much affect him; and from being habituated to sensations, at first paffing, he is afterwards unaffected, even by those impressions which would have a man living in the medium between these two extremes.

It seems also right here to remark, that a great similarity appears to exist between the supposed irritable actions of the nerves, and those of the muscles. The facility, accuracy, and celerity of the actions of nerves are improved by use, as is exemplified in the correct and quick sensations of those persons who are accustomed to exercise their auditory nerves in attending to musical sounds.

A train or succession of nervous actions having taken place, they become concatenated, and are liable to recur in succession, if one of these actions is accidentally induced. Both the nerves and muscles seem to require temporary repose from action, and both appear to be refreshed by sleep.

The supposition of actions occurring in the nerves, explains many circumstances connected with diseases. Vehement actions may be begun independent of impulses in the tangible extremities of nerves, and thus occasion severe pains. This seems to happen in the disease called tic douloureux. Ordinarily, actions begun in the tangible extremities of the nerves, are regularly transmitted to the brain; but in cases of nervous pains, the action seems to begin in the middle of the nerves.

It is also probable, that actions may take place in the semblar extremities of the nerves producing illusive sensations, and thus exciting ideas.

The next subject which claims our attention, is the part of the brain to which all the nervous motions, produced by external impressions, tend, and from which all the motions arising from volition begin. Physiologists have agreed to call this part the sensorium, and have supposed it to be situated in various parts of the brain; but there is no part of the brain to which this importance has been ascribed, which has not been occasionally diseased, without sensation and volition being impaired. Of late, Boullier has affirmed, that he can trace all the nerves to the ventricles of the brain, in which he therefore supposes the faculty of sensation and volition to reside. All our sensations may be gratified at the same time, and we may give a preference to the pleasure which we receive from one of them, above that which we derive from the others; which circumstance seems to prove the unity of that which perceives and determines.

Daller, after considering the subject, thus concludes: "Nunc quilibet in universum observatus, non debere anguliiorem animae sedem ponit, quam fit conjuncta omnium nervorum origo; neque particularis aliqua pro ea fede offerri, nisi ad quam omnes nervos decere possimus. Todicum intelligentia, debere a sensorio communi nullum illius particulas corporis animi senium subiefi, etc. Elench. Physiol.

If it be admitted that sensation and volition exist in the brain, it must also be granted that motions must be produced in the sensorial extremities of the nerves by the objects of sense, and that reflected motions must take place in the nerves, by which the mandates of the will are transmitted to the muscles.

If all that has been said were to be ascertained, the extent of our knowledge would, in that case, only lead to this conclusion, that motions of a subtle substance took place in the sensorium, and from such motions we conceive it impossible to account for sensation. We can conceive no varieties in these motions but those which relate to degree or duration. We feel it impossible to believe that sensation can be the result of such motions, or that ideas can arise from any succession or train of them. We therefore conclude, with many celebrated physiologists, and men of the profoundest understanding and greatest reflection, in the natural belief, that sensation, remembrance, comparison, judgment and volition are properties of a distinct substance.

The conclusion to be drawn from this examination of the functions of the brain and nerves, and from that of the other animal functions, seems curious and interesting. We perceive an exact correspondence in the opinions we obtain from physiological researches, and those which arise from theuggellations of reason, that they have been conformed as intuitive. For most reflecting persons in all ages of the world have believed, and it is, indeed, natural to believe, what modern physiology teaches, that in the human body there exists an assemblage of organs, formed of common inert matter, such as we see in the dead state, a principle of life and motion, and a sentient and rational faculty, all intimately connected, yet each distinct from the other.

Brain, Chemical Analysis Of. Though the analysis of this most important organ can throw no light on its peculiar functions, it is in itself sufficiently remarkable to be detailed somewhat at length.

It is needless to give all the conjectures on the nature of brain, made before chemists had acquired a tolerably accurate and just method of analyzing animal matter. The experiments of real importance are chiefly those of Tourneur, in 1755, with some subsequent additions by Fourcot.
BR At the inner end of it; one of which riveted across the checks or ear, in the upper end of the pump, serves as a fulcrum for the brake, supporting it between the checks. The other bolt connects the extremity of the brake to the pump spear, which draws up the box, or piston charged with the water in the tube. See PUMP.

BRAKEL, in Geography, a town of Germany, in the circle of Welphilau, and bishopric of Paderborn, formerly a city of the empire, 3 miles E. of Paderborn.

BRAKENBURG, Renner, in Biography, a painter of landscapes and conversations, was born at Haren in 1649, and studied first under Mommers, and afterwards, according to Houbraken, under Bernard Schendel. His subjects were like those of Brouwer; and he remembered him, not only in his genius, and style of composition, but in the diffortune of his morals. In some of his pictures, he seems to have been detriment of imitating Ophius. His figures were designed after nature, and represented by the habit and fashion of the times. His subjects were the feuds of towns, the amusements of the villages, dancing, and frequently conversations, in which love and wine were always introduced. His compositions are ingenious, and full of variety; though the forms of his men and women are the same, and selected without elegant taste from nature. His colouring is strong and natural, his touch lively and fine, but he is deficient in taste of design. Pilkington.

BRALIN, in Geography, a town of Silisia, in the principality of Qela; 7 miles E. of Wartenberg.

BRALIO, a mountain in the country of the Gironis, separating the valley of Munster from the country of Bormo, and being a part of the Alps, which is supposed to be the same with that mentioned by Tacitus, under the appellation of "Ioga Rhaetica." The first source of the river Adda lies near the summit of this mountain. Over the Brilio is a road, which, though very indifferent, was formerly the principal passage for the merchant, sent from the Tyrol, through the Valteline, into the Milanese; at present, it is much less frequented.

BRAM, a river of Germany, which runs into the Steer, 10 miles above Itzhoe, in the duchy of Holstein.

BRAM, or Brahna, in Mythology, a pagan deity among the Brahmins in the East Indies. See Bramans.

BRAM in Mythology, a species of Cyprinus, known with us by the name of Bream, and which is distinguished by having the fins brown, and in the anal fin twenty-seven rays. The Bream is found in lakes and rivers, or in the sea. It grows to the length of two, or even almost three feet. The food of this fish is herbs, worms, and smaller fishes. This is esteemed a coarse fish for the table, but to the angler it affords excellent sport. The best time of angling for the Bream is from St. James's day to Bartholomew tide, being then in the highest perfection.

BRAME, in Natural History, a species of Echinorhynchus, that infests the intestines of the Bream. The neck is filiform, and the proboscis armed with very minute prickles. Gez. Oriel.

BRAM, a species of Fasciola, found in the intestines of the Bream and Rickleback. The form is oblong, round, tapering, and obtuse at the base; neck round and somewhat incrassated. Nat. Zool. Dan.

BRAMAGUM, or Brumagum, in Ancient Geography, a town of Italy, in the route from Rauracum to Augulca Praetoria. Antonin. Illn.

BRAMANT, in Geography, a small town of Savoy, in the valley of Maurienne, leant on the river Arc. N. lat. 45°. E. long. 4°. 15'.

BRAMANTE, Lazzaru, in Biography, a famous Italian architect, was born at Castel-du-Sante, in the territory of Urbino, in 1444. His first views were directed to the prosecution of a painter; but architecture being better adapted to his taste and talents, he devoted himself wholly to the assignment of excellence in the art. For this purpose he went to Milan, about the year 1470, and afterwards to Rome, and other cities of Italy, availing himself of instruction from the best masters, and from a diligent examination of the architectural remains of antiquity. At Naples he was employed by cardinal Caraffa in rebuilding the convent of the Pace; and the reputation he thus acquired recommended him to pope Alexander VI., in whose service he executed many designs. Under Julius II. he was employed, as superintendent of his buildings, in accomplishing the grand project of joining the Belvedere with the Vatican, by means of two galleries extended across a valley. In 1504 he accompanied pope Julius to Bologna, and was engaged in fortifying the town; and during the war of Mirandola, he had several opportunities of exercising his talents in the military art. After his return to Rome, he adorned the city with many fine buildings; and at length undertook to demolish the cathedral of St. Peter's, and to supply its place with another edifice suited to the capital of the Christian world. His plan for this purpose was adopted; and before the death of the pope, in 1513, the new structure was advanced as far as the entablature; and at the time of his own death, in 1514, the four great arches for the support of the dome were erected. The original design was abandoned by the architect who succeeded him, not without injury to the structure; but the prosecution of the work was entrusted with Michael Angelo, who praised his plan, and conformed as much as possible to his ideas. Bramante was no less eligible for his general character than for his extraordinary talents as an artist. Obliging in his disposition, he took pleasure in encouraging young persons of the profession; and he invited the celebrated Raphael, who was his confidant to Rome, instructed him in architecture, and procured for him employment in the Vatican. He was also skilled in poetry and music, and composed extemporaneously for his harp. To him is ascribed the invention of confronting arches by casting in wooden moulds a mixture of lime, marble dust, and water, supposed to be a revival of the process of the ancients. His poetical works were printed at Milan, in 1568. The knowledge and practice of the art of engraving may also be added to his other accomplishments. This art he probably acquired at Milan, and his execution of it exactly resembles the style of Andrea Mantegna, that is, with the strokes running from one corner of the plate to the other, without any crooking. He died in 1517. "Tribalbich Strutt.

BRAMBAS, in Botany, a name given by the people of Guinea, and some other parts of Africa, to a peculiar species of lemon-tree. The leaves of this are of a deep green, and of an admirable fragrancy, when rubbed between the hands. The fruit is very small, and has a remarkable thin skin. The juice is used in dying. Phil. Trans. N. 168.

It has not been taken up as a distinct species, either by Linnaeus or any other systematic botanist. In the Abridgment of the Philosophical Transactions it is passed over without notice.

BRAMBER, in Geography, is an ancient borough town of Suffolk, in England. This place, though now reduced to only 25 houses, still possesses the privilege of sending two members to the English imperial parliament, and the borough of Steyning, which unites with this, also returns two members. (See Steyning.) From 1298 to 1472 the rents for clereting burages to serve in parliament were directed jointly
to these two places; but since that period each has been separately reperformed, and each governed by its respective charter. This borough is the joint property of two persons, who, in the year 1726, strongly opposed each other, for the exclusive power of poising the whole. In this struggle, it is flared on authenticated authority, that a tenant of one of the poor cottages had the fortune and integrity to refill the present of 1000l., which was offered for his vote. Here is neither market nor fair, and its whole population only amounts to ninety-one persons. It is 51 miles south from London. History of the Boroughs of Great Britain, 8vo. vol. iii.

BRAMBLY, in Botany, the common English name for the blackberry and dew-berry bushes, Rubus fruticosus and canina.

BRAMBLY, Brambling, Bramble-finch, in Ornithology. See Fringilla montifringilla. Brambling, greater. See Fringilla tephronota. Ray calls the tawny hunting, Emberiza melichira, the brambling or tea bark.

Bramble-galls, in Entomology. See GALLS OF THE BRAMBLE.

Bramble-net, otherwise called bullier, is a net used by bird catchers, of several sizes.

BRAME, Martin Brame of Sonnerat, in Ornithology, Turdus pugilarius, the pageda thrush.

BRAMER, Leonard, in Biography, a Flemish historical painter, was born at Delft in 1590, and acquired the art of painting in the school of Rembrandt, whose manner he imitated. At the age of 18 years, he went to Rome for further improvement, but could never wholly divest himself of the Flemish goit. With a fine taste of design he combined an expression generally good, and occasionally noble. His pencil is delicate, and his colouring very peculiar in the tints, and by great skill in the management of the chiaro-scuro, light, bold, and full of liture, particularly in the vases, which he was fond of introducing, and to which he gave a rich and fine relief. To his pictures he was accustomed to give a great degree of transparency, by painting with a very thin body of colour, especially in the brown and shadowy parts. His name was famous, not only at Rome, but in several other cities of Italy, and his works, out of Italy, are scarce; but when they occur in an undamaged state, they fetch high prices. Among his most capital pictures are the "Rafting of Lazarus," exhibiting a charming contrast of light and shadow; his "Denial of St. Peter," both executed in his best manner, and preferred at Rome; and, particularly, a small picture on copper, representing the "Story of Pyramus and Thisbe." Pilkington.


There is only one known species. Stems, cylindric, tender. Leaves, opposite, oblanceolate, oblong, succulent. Flowers, axillary, fingle, blue. It is a native of moist situations in the East Indies.

BRAMHALL, John, in Biography, an eminent prelate of Ireland, was born at Pontefract in Yorkshire, about the year 1593, and admitted into Sidney college in Cambridge, in 1668, where he took his degree of B. A. in 1612, and that of M. A. in 1616. Having taken orders, he was preferred to a living in the city of York; then to the rectory of Elvington in the same county, and afterwards to the prebends of York and Rippon.

In these several situations he engaged such a degree of felicity and confidence, both by his abilities as a preacher and by his general conduct, that he had very considerable influence in all public transactions. As one of his majesty's high commissioners, to which office he was appointed, he was very affable, and, as some have said, severe in the discharge of his duty. In 1623 he took his degree of B. D. and in 1630 that of D. D. on which latter occasion the subject of his Latin thesis was "The Pope is the Author, or Maintainer of all, or at least, of the chief Controversies in the Christian world," in the support of which he displayed great learning. Soon after he was invited to Ireland by Lord Wentworth, deputy of that kingdom, and Sir Christopher Wardenford, master of the rolls; and in 1633, having resigned all his English prelatures, he removed into that country. From the archdeaconry of Meath, which was his first prelature, he was advanced in the following year to the bishopric of London.

In these situations of dignity and influence he was eminently active and useful in passing several important acts in the parliament of 1634, in reforming the doctrine and discipline of the church, and in the improvement of its revenues. In pursuance of the first of these measures he abolished the fee-farms that were charged on the lands of the church; in accomplishing the second, it was his object to effect a more entire union between the churches of Ireland and of England, and for this purpose he obtained a canonic in the convocation, holden at that time, which expressed an approbation of the 59 articles of the English church, and which denounced excommunication against those who affirmed, that "any of them are in any part superfluous or erroneous;" and with a view to the improvement of the revenues of the church, he adopted various means, which, in the space of four years, gained an accession to them, of 30 or 40,000l. a year. In the conduct and execution of these measures, however, he excited much opposition and obloquy, and he incurred the charge of being inclined to popery and arminianism. In March 1640-41, articles of high treason were exhibited by the house of commons to the house of lords in Ireland against him, and several of the ministers of state, in which they were charged with a conspiracy for subverting the fundamental laws of the kingdom, and for introducing an arbitrary and tyrannical form of government. Instead of securing himself by flight, gratefully to the advice of his friends, he determined to repair to Dublin, and to appear before his enemies in the parliament house, where he was arrested, and from thence conveyed to prison. After a rigorous examination, in the course of which he cleared himself from all filth and sinner views in recovering the patrimony of the church; and when his accusers were proceeding to fix upon him the charge of subverting the laws of his country, he obtained, by the interposition of the primate Usher, then in England, a letter from the king to stop the prosecution of the suit. Accordingly he was set at liberty, though not publicly acquitted. Finding it unsafe to reside at Londonerry, he removed to England; and settled in Yorkshire, where, by his influence and activity, he did great service to the royal cause; but, after the battle of Marston-moor, when the king's affairs became desperate, he embarked with several persons of distinction for Hamburgh, in 1644; and from thence he went to Drabells, where he molly refused, and exercised his ministry till the year 1648.

In that year he visited Ireland, but was soon obliged to withdraw again to the continent; and he remained abroad until the restoration. Upon this event he was recommenced for his loyalty, by being translated, in January 1660, to the archbishopric of Armagh, the primacy and metropolitan see of Ireland. Soon after his promotion he visited his diocese, and by prudence, moderation, and firmness, alloyed the diff

contents
contents that prevailed in it, removed several prejudices that were very generally entertained, both against himself and the church, and gained over many adherents to the cause of conformity. In the parliament of 1661 he was chosen speaker of the house of lords; and as a further evidence of the high estimation in which his character was held, both houses concurred in expunging from their records every charge both against himself and the earl of Strafford. In this parliament he also obtained many substantial advantages for the church. Whilk he was meditating other plans for the benefit of the church and its ministers, he was disabused from prosecuting them by a second stroke of the palsy; and this was succeeded by a third fit which terminated his life, in June 1663. His works were collected and reprinted at Dublin in 1667, in one volume, folio, which was divided into four series or parts. The first contains his discourses against the Roman Catholics; the second consists of various pieces against the English sectaries; the third includes his writings against Mr. Hobbes, which have been deemed very valuable; and the fourth comprehends his controversial writings about the Sabbath and the Lord's day, single sermons, and occasional tracts. Mr. Granger observes, "that Dr. Bramhall was one of the most learned, able, and active prelates of the age in which he lived, an acute disputationist, and an excellent preacher." Although his conduct in the Irish convocation of 1654 be not entitled to any very extravagant applause, and the latter part of the canon, which is said to have been procured by his arguments, be totally inconsistent with a proper respect for free inquiry, or any just sentiments of religious liberty; and although he coincided in many respects with Laud, and more especially in his principles of civil government, he poiseed much greater moderation in religious matters. The temper and prudence, like-wise, with which he conducted his dealings, for the interest of the established church, were far superior. Whilk he approved himself a firm friend to the church of England, he manifested a great degree of charity towards persons of different persuasions; and, accordingly, he distinguished between articles necessary for peace and order, and those that are necessary for salvation; often declaring, "That the church was not to be healed but by general propositions."—Biog. Brit.

BRAMICIDE, the crime of killing a bombing, reputed in the East Indies, one of the five most enormons sins.

BRAMINS. See BRACHMANS.

BRAMNNE, in Geography, a river of Hindostan which runs into the bay of Bengal, 40 miles S. of Balacore.

BRAMPORP. See BURHANPOUR.

BRAMPTON, a market town in Cumberland, England, is situated in a deep and narrow vale, 311 miles N.W. from London. Camden supposes it to have been the Roman Brethureum, "where the Cenoten Armatarum were in garrison on the decline of the Roman empire;" and from its general appearance, it seems to have been of much greater importance than at present. At the east end is a vast conical mound, called the Mot or Castle-hill; which is about 360 feet in perpendicular height, and its acclivity very steep. Near the summit are a trench and rampart, which entirely surround the hill, the crown of which has been formed into a plain, about forty paces in diameter, and defended by a breast-work. Brampton principally consists of one spacious street, irregularly built; but a few modern houset, and a good inn, have lately been erected. Its chief support are a large weekly market (Tuesday), and two annual fairs, for which the grant was obtained in the reign of Henry the Third, by Thomas de Multon, lord of Glland. The houses are 346, and the inhabitants 1682, who are not well employed, there being no manufacture of any extent in the town: it appears, however, to be improving; and a raised waggon-way, which the earl of Carlisle has lately made from his collieries to Tindalefell, will probably conduce to the augmentation of its trade. Religious worship is performed in a chapel, which was consecrated in 1788, having been built with the materials of the church, which stood about a mile from the town, on a bold eminence, near the banks of the river Irthing. The chancel yet remains, and the burial-service is generally read there, most of the inhabitants preferring to be interred in the ground that had entombed their ancestors.

About two miles distant, on the face of a rock overhanging the river Gelt, is the celebrated Roman inscription, noticed by Camden, and almost every antiquary since his time. The rock is of an angular form; and, from its exposed situation, the letters have been partially obliterated, but let us so than could have been expected from the forms of fifteen centuries.

Near the junction of the rivers Irthing and Gelt is Edmond-Castle, the seat of Thomas Graham, esq., beautifully situated; but greatly improved by the plantations, and other tasteful and judicious alterations of the present proprietor. Near this manston, on a rising ground, is a mound of earth, called Castle-Hill, raised about twelve feet from the adjacent land, hollow on the top, and upwards of thirty yards in diameter. Between one and two miles north-west from Edmond Castle, is Watchcros, the fourteenth station ad lineam Valli, and supposed to have been the Aberlashe of the Notitia. It is situated on the summit of an eminence, of an easy ascent, and commanding a very extensive prospect. On the south side are several irregular lines and breast-works, and the site of the Praetorium is still distinct. The military way, which generally accompanied the Pretentier, runs in this part of the county at some distance, in order to avoid the marshes and bogs through which both the walls of Severus and Hadrian were carried. Its comparative direction, therefore, from Carr-voran to Stanwix, is that of a firing to a bow; and hence it passes this station, which is several hundred yards south of the wall.

BRAMSCH, a town of Germany, in the circle of Welsphalia, and bishopric of Osnabrook, on the Hafe; 5 miles S. W. of Vorden.—Also, a town in the circle of Welsphalia, and county of Lingen; 5 miles S. S.E. of Lingen.

BRAMSTEDT, or BRAHMSTED, a town of Germany, in the circle of Lower Saxony, and duchy of Holstein, situated on the river Bram, and having near it a medicinal spring discovered in 1681; 21 miles N. of Hamburg.

BRAN, the skins or husks of corn, especially wheat, ground, separated from the farina or flour, by a sieve or boulter.

Of wheat bran it is that flatch-makers make their flatch, which is nothing else but the facula remaining at the bottom of the vesseis, wherein the bran has been steeped in water. Bran is held deterrent, and, on that account, is of some medicinal use in gargarisms and glyceters. It is also a chief ingredient in the composition of cataplams. Some apply it hot against the pleurisy; boiled, it purges scurf and dandriff, and cleanses the hands in lieu of soap. Among the ancients, it was also used as an erotic, to excite love.

Bran has been given to horses; but it has been observed that those of bakers and mealmen, which have principally been fined on this article, with the addition of a few split beans or peas, have become pufive and thick-winded, then athmatic, and lalily, dull, heavy, and inactive. And when they have died at 5 or 10 years old, a large ball, or mealy concretion, of different sizes in different subjects, has been found
found in the stomach and intestines, hard, and about 10 or 12 pounds in weight. However, bran, though an improper food for horses in its dry state, is an useful
ingredient in maltes with meal, and serves to prevent the fattening richfeeds of that article alone; and also in common
maltes with oats, when a horse is under a course of phytic:
and with a proper impregnation of honey in the malths for
colds, during the severity of the winter season. Taplin.

Dyers rank bran in the number of non-colouring drugs; 
because it yields no colour of itself. It serves for the making
of their four waters, used in preparing fluffs to take the dye.
This water is made by boiling wheat bran, and into the
decocion putting a little leaven.

BRANA, in Ancient Geography, a town of Spain, in
Bactica. Pliny.

BRANAW, in Geography, a town of Bohemia, in the
circle of Koniggratz, in which is a manufacture of coloured
cloth; 11 miles N. W. of Glatz, and 29 N. E. of Ko-


BRANCA Urbina, J. Baul. in Botany. Bear’s breech.
See Acanthus.

BRANCA Ursina Germanica, J. Baul. See Heracleum
Spontaneum.

BRANCA, in Geography, a small island in the Atlantic,
being one of the Cape de Verde islands, near the coast of Benin,
in Africa.

BRANCA, in Middle Age Writers, the paw, or extreme part
of the foot of a wild beaft, or bird of prey. Du-
Cange.

BRANCA, or Branchia, also denotes a right of lopping
or cutting off branches of trees in the forest for firing. Du-
Cange.

BRANCALEO, John Francis, in Biography, a Ne-


copolitan physician, published, in 1534, De balneas, quam
falubria sint, tum ad sanitatem tuaemdam, tum ad morbos
He defends bathing against the objections of his contemporaries,
in the authority of Galen, and from his own experience
recommends the practice in intermitting fevers, and as
an affilliant in the cure of the ews veneres. He reproves
his brethren for their too frequent ufe of purgative medicines,
the common recourse, at that time, against moft diseases.
The work has been several times reprinted. Haller Bib.

BRANCALEONE, in Geography, a town of Italy, in
the kindom of Neples, and province of Calabria Ultra; 9
miles S. E. of Bova.

BRANCAS, 4. a town of France, in the department
of the Indre and Loire; 4 leagues S. of Tours.

BRANCH, in Botany. Branches are the divisions of a
stem or trunk, which are found on many herbaceous plants,
but are chiefly noticed on shrubs and trees. The primary
branches spring immediately from the trunk; the secondary
ones from the primary; and so on in a regular subordina-
tion, till they terminate in slender twigs. They confit of
precisely the fame anatomical parts as the trunk, and with
the exception of a root, are in fact little trees, which if
separated from their parent flock, and planted in the earth
under favourable circumstances, would throw out roots, and
become independent plants. They proceed from buds formed
within the surface of the trunk which interrupt the paral-
lelism of its fibres, and form knots in the wood. These
knots afford a point of support, and centre of motion to the
growing branches, and are funk more deeply in the wood in
proportion to their age.

The lower branches are often nearly parallel to the hori-
zon at right angles with the trunk; those above them make
angles more and more acute, as they are placed nearer the
summit; but these angles differ in different species, and in
every individual tree are subject to numerous varieties, from
the influence of external causes. Some branches produce
only leaf, and new branch buds; others produce only flower
buds. The former are smooth in their surface, pliable and
tough, with clofe straight fibres, catly separable from each
other: the latter are wrinkled at their bark, have their fibres
less compact, and break short when trunck. There are also
branches which pierce the bark without a bud, and form
what is commonly called false wood. These, as they are
often luxuriant in their growth, and rob the more useful
branches of their due nourishment, are carefully pruned
away by the skillful planter and horticulturist. They have a
rough bark, and produce only a few blackish buds.

BRANCH, in Vegetable Anatomy. Almost every plant
or tree, when arrived at a certain period of its growth, ex-
hibits at its superior part, more or less of a divided or rami-
fied appearance. The mode of increase by means of branches
has been observed to generally amongst vegetables,
that it was formerly considered the exclusive distinction of
that class of beings; but it is now well known that a nu-
merous tribe of animals multiply themselves by branches,
and therefore this mode of propagation is not quite peculiar
to the vegetable kingdom.

On a superficial inspection, the branches appear as so many
divisions and sub-divisions of the tree, in the formation of
which the main trunk is disposed of or expended; but a
more accurate examination proves, that the trunk loses none
of its substance in the production of the branches; that both
trunk and branches take their origin, and continue to in-
crease precisely in the same manner; that, in fact, every
branch should be considered as a lesser trunk, differing only
from the parent item, in the circumstance of not deriving its
fuitance immediately from the earth.

The branches are the product of the buds in which they
enjoy, for a certain period, a species of vital existence, as
the embrio of the trunk did originally in the seed. See the
articles Seed, Fruit, Trunk, Bud, and Bulb.

The kind of attachment which continues to subsist be-
tween the trunk and the branches affords additional proof
of the individuality of the existence of the latter; although
the external form of a tree would lead to the supposition,
that the branches were formed by different detachments of the
facciculi composing the original trunk, in the same manner
as one separates into several portions the fibres of a rope;
yet, to ehibit the contrary, it is only necessary to make
some fections of the branches where they are implanted into
the trunk. Thus, suppose a tree, which divides into two
primary branches, he cut tranversebly about a foot above
the bifuration, the fection will be found to represent that of
two different trunks, each composed of concentric circles of
woody fibres. (See Plate II. in Vegetable Anatomy, fig. 1.)
If a tranverse fection be then made of the same branches,
at the place where they first appear to separate from the
trunk, the concentric layers corresponding to each branch
will be perceived as before, but they will be found sur-
rounded by several circles of the woody layers belonging to
the trunk. (See Plate II. in Vegetable Anatomy, fig. 2.)
If a tranverse fection be again made similar to the last, but
a few inches lower down, the circles of woody layers which
compoze the branches will be seen diminished in number and
size, while the concentric layers of the trunk have become
in the same proportion more numerous. (See Plate II. in
Vegetable Anatomy, fig. 3.) If, lastly, similar fections to
these described be repeated at short distances from each other,
it will be found, that the number of woody circles which
appertain
appears to the branches, continue regularly to decline, in proportion as the fections are performed lower upon the tree, until they disappear altogether, there being at last exhibited only the appearance of the divided circles of the layers of wood, which constitute the main trunk. The connexion of the branches with the trunk is, therefore, by means of a cone, of which the apex is directed towards the centre of the tree, and the base corresponds with the superficial.-Fig. 4. of Plate II. in Vegetable Anatomy, represents the arrangement of the ligneous fibres, by means of which the origin of the branches is rendered of a conoid form.

When a branch is forcibly torn from the stem, it is commonly observed to bring with it a portion of a cone or pyramid, which leaves a corresponding depression at the part from whence the branch has been removed. This arises from the wood fibres being most easily ruptured, where they are reflected into the angle, which forms the line of junction between the branch and the trunk.

The small or secondary branches have precisely the same kind of origin and connexion with respect to the large or primary branches, which these latter have with regard to the trunk. Hence every branch may be considered as a parent stem sustaining others, which in their turn give origin to new branches, and these again to others, as long as the vegetable continues to grow.

Branches acquire bulk by the addition of successive layers of wood, in the same manner as the trunk. See fig. 5. of Plate II. in Vegetable Anatomy, which is copied from the design of Duhamel, to illustrate the growth of branches. The entire figure is supposed to represent a tree of four years of age, furnished with several branches in the order in which they might naturally occur. The wood cone, \( N^\circ 1 \), having developed a bud towards \( a, b \), a branch would exist in the fourth year composed of four layers of wood, as represented by \( a, b \).

If another bud were formed upon the ligneous layer of the second year, \( N^\circ 2, 2 \), its branch in the fourth year would be composed of three layers, as seen in \( c, d \). Admitting further, that in the third year a bud was produced from the branch \( a, b \) towards \( f \), a little branch would be formed which could only have two layers; and lastly, if in the fourth year, when the ligneous layer \( N^\circ 4, 4 \), is deposited, another bud were to grow towards \( g \), the branch to which it would give origin would be made of only one layer of outer fibres, as shown by \( g, b \). Thus, the number of wood layers which compose any branch being ascertained, its age becomes known, and the relation which this bears to the age of the parent trunk is discovered by finding the wood layer upon which the apex of the ligneous cone of the branch is implanted; or, in other words, observing the point where the parallelism of the longitudinal fibres of the trunk is first interrupted.

It is asserted by Parent, "Histoire de l'Académie," 1711, that the branches are nourished by the pith or medulla, but nothing can be more erroneous; the medulla of the branch does not even communicate with that of the trunk, although the ligneous cone of the branch is most frequently implanted upon the innermost layer of the wood fibres, or those which immediately incafe the medulla.

Du Hamel has remarked, that the longitudinal fibres, whether woody or cortical, take the direction of the chief current of the sap; thus, if the sap be propelled in the direction of the trunk, as happens when either the branches have been originally inconsiderable, or have been early lopped off, the cortical and woody fibres proceed nearly a perpendicular position, only separating to give passage to the branches and immediately after recovering their parallelism. See Plate II. in Vegetable Anatomy. Fig. 6. exhibits a portion of a thick trunk, from the side of which had proceeded a small branch. If a large branch arises from a trunk, it necessarily attains a great portion of the sap, and, in this case, the inclinations of the cortical and woody fibres is obliquely towards that branch, as it is represented by fig. 7. of Plate II., in Vegetable Anatomy. This effect is still more remarkable in trees, which have been tipped immediately above the origin of a young branch; for then all the sap being obliged to pass towards the branch, the fibres pursue the same direction, and hence, if a tree be examined in the spring, after having been thus deprived of its top the preceding winter, the new ligneous fibres will be observed to cross the others, as appears in fig. 8. of Plate II., in Vegetable Anatomy.

The course of the ligneous fibres determines the nature and quality of what is called the "grain" of wood. In proportion as the fibres preserve the parallel direction the grain is smooth and equal, and the wood tractable in the hands of the workman, and accordingly those trees which furnish but few or small branches, such as the different firs, are most used in carpentry: whilst mahogany and several fruit trees are preferred for making furniture, on account of the various disposition of the fibres, and the number of large knots, which produce the beautiful diversity of colours observed in these woods.

The branches occasion that appearance in wood, known by the name of a "knot": the longitudinal fibres being diverted from their course, and subjected to compression, at first by the eruption of the bud, and afterwards by the growth of the branch, acquire a degree of solidity and compactness unlike any other part of the vegetable body. The ligneous cone of the branch itself generally acquires more or less of the knotty texture; the conversion of the origin of the branch into a knot is influenced however by several accidental circumstances, the habit of the tree, &c., which are pointed out in another place. See Knot.

The branches of the vegetables with one seminal leaf differ from the dicotyledons in this particular, that they are not produced by buds, but by the longitudinal fibres turning aside, and prolonging themselves in a diagonal course, until they penetrate the bark.

After the description which has been given of the origin and growth of the branches, it is almost unnecessary to add, that they puffeff the same anatomical structure as the trunk; all the parts which compose the one are met with in the other, and are disposed with perfect similarity in each, as the epidermis, the parenchyma, the cortical layers, the wood, and the medulla.

The form of the larger branches is most frequently cylindrical, but the slender ones have several forks, or exhibit in the transverse section more or less of a polygon figure. The section of the branches of the elder and the orange-tree is triangular, that of the Virginia poplar is square, and in the plum-tree and willow it is pentagonal.

The general appearance of a vegetable, which botanists have termed the "habitus," depends chiefly upon the position which the branches and their ramifications obtain with respect to each other, and the different directions they assume. The branches like the leaves arise in various orders: sometimes they are opposed to each other, as in the hazel, oak, and coffee trees; at other times they succeed one another alternately, as in the pear and apple trees, &c. They are arranged in a circle round the stem in the protea argentea: in some instances the branches are widely scattered on the tree, while in others, they are so thickly set, that they conceal from view the trunk and one another. The various situations of the branches depend upon that of the buds from
from whom they originate; and being constant in each species, more particularly with regard to the secondary branches, it furnishes a botanical character, of which Adanson has taken advantage. The branches, as well as the leaves, are strongly attracted by the light; they avoid even the shade caused by the foliage of the adjoining branches of the same tree, and hence it is, that those which are next the ground extend in a horizontal direction, in order to escape from the shadow of the superior branches, and that the latter, in proportion as they approach the summit of the tree, assume more of an erect position. The latter ramifications observe a similar position. The economy of some trees renders the direction of their branches somewhat peculiar, thus, in the pohon, they are nearly vertical, whilst in the aspen they lie towards the earth, and in the fig-tree they are curved towards the root; but in these instances also the lowest branches are still the most prominent, in order that all may be equally and fairly exposed to the light.

Du Hamel has made a number of experiments, to determine the proportionate thickness of the trunk to the primary branches, and again of these to the secondary branches: his experiments tend to prove, that the squares of the circumferences of the first branches exceed those of the trunk, in the proportion of 5 to 4; and in comparing the squares of the circumferences of the primary and secondary branches, he found that the latter fell short of the others in the proportion of 100 to 101 in one instance, and in another of nearly 50 to 51: the primary branches, therefore, not only exceed in quantity the trunk, but those of the second order also, which are nevertheless so much more numerous. Du Hamel explains this curious circumstance, by supposing that the smaller branches are most liable to be defoliated, in which case they would not only suffer diminution themselves, but their leaves would tend to make those from which they spring more vigorous, and consequently larger.

The Abbe Schabol distinguishes in fruit trees five sorts of branches: the first kind are smooth on the surface, their fibres are straight and closely applied to each other, but easily separated; they are pliant, and break with difficulty; it is upon these branches the wood buds are found. The second sort fall from the fruits; they are wrinkled at their base; their fibres appear to be more interwoven; they are supplied to be endowed with numerous veins and pores; they contain a thick sap; and when bent are readily broken. The third kind of branches resemble those which become the wood, but are not produced from buds; they arise from the bark, and, as they never become hard, they are called the branches with false wood. The fourth sort are very broad at their base; their bark is brown and rough; their buds are black and not numerous; these branches, like the leaf, are produced by the bark; they grow rapidly and soon perish; they are injurious to the tree, in depriving more useful branches of their due proportion of nourishment. The fifth sort are small branches which abound upon unhealthy trees; they exhaust the fibres, and are useless upon the most vigorous; they die before they acquire any magnitude.

There is a remarkable relation between the branches and the roots; upon these parts mutually depend the ascent and descent of the sap; they must, therefore, act in harmony and in proportion to each other: hence, if a tree be deprived of some of the principal branches, the corresponding roots perish; or, if the small branches be clipped to form the tree into any particular shape, the roots gradually assume the same figure; if the summit of the trunk be cut off, the lateral branches become more vigorous; in the same manner the lateral roots acquire strength, by the removal of the extremity of the principal root. The fine fibres of the root perish at the fall of the leaf; and mildly, experiment has shown, that the tops of the branches, when covered with the earth, will produce roots; and that the roots, when exposed to the air, will put forth leaves.

Branch, in Mythology. Anciently branches were carried in the hands of the procumens and ceremonies of the gods; whence the thaliphori, or branch bearers. The Thelipans adored a branch. 'The olive branch was the symbol or ensign of peace. The natives of the islands of the South Seas the green boughs, &c. for the same purpose at this day.

Branch is also applied to the parts or ramifications of diverse other bodies, which, in respect hereof, are qualified as items. Thus chemists speak of the branches of their metallic vegetation, branches of the arbor Diane, arbor Martius, &c. Phil. Trans. No. 286. Mem. Acad. Sc. 1692. 1702.

Branch, in Anatomy, denotes a division of a vein, artery, or nerve. All the veins in the body are only branches of the vena cava.

Branch is also used in the Military Art, in speaking of trenches, mines, and their several ducts, ways, returns, and the like, between one well and another. See Gallery.

Branch is also used in speaking of the veins of mines of gold, silver, or other metals, which divide like the veins in the body.

Branch, in Genealogy, is applied to the several lines or issue arising out of the same stock or origin. In which sense, branches amount to much the same with cadets.

Branch also denotes a complex metallic kind of candlestick, contrived for the reception of a number of candles. These, in ancient writers, are called paria, cantares, sijfe; when made of glass, lyitra; the richest sort, girandole.

Branch of the branches, in Fortification. See Boyau.

Branch-land, in Falconry, signifies to make a hawk leap from tree to tree, till the dog springs the partridge.

Branch, in Scripture, is an appellation peculiarly given to the Mediah, as being of the branch or house of David.

Branches of vases, are sometimes used to denote the arches of them.

Branches of arches, denote several portions of arches springing all from the same summer.

Branches of ogives, in Architecture, the reims or arches of Gothic vaults; which traversing from one angle to another, diagonal-wise, form a crois between the other arches which make the sides of the square, whereof those arches are diagonals.

Branches of a turret, in the Mange, are two crooked pieces of iron which support the mouth-bit, the chain, and the curb; and which are fastened on one side to the headstall, on the other to the reins; serving to keep the horse's head under command.

What way ever the branches of the bit incline, the horse's mouth goes to the contrary. The Duke of Newcasttle is very particular on the head of branches; explaining their several kinds and their effects, which are reducible to those of a lever. The branch is always to be accommodated to the design, either of bringing in, or raising a horse's head, and to the necessary degree: accordingly, we have strong and hardy branches, gentle branches, rude branches, &c.

With regard to their form and structure, branches are either flat, in form of a fist, for young horses to form their mouth; or, after the contabile of France's fashion, for horses that already carry the head well: others are in form of a gigot,
The branch, which is native to Greece, is diminutive in the moment of the new-born, diminishing as it is grown, yet acquiring a certain magnitude. A thick and sturdy branch is that whose leaf-hole, at the lower end of it, is placed on the outside of the line of the branch. A gentle branch is that, the leaf-hole of which is set on the inside of the said line. A rude and hardy branch will bring in a horse's head, proportionately as it is more or less hardy; whereas a gentle branch, by diminishing the effect of the bit-mouth, makes a horse more easily bear the pressure thereof, who before could hardly endure it. See Bits.

**BRANCH** or **BREATH**. See VELVET.

**BRANCH** or **BREATH**, among Poets and Falconers, denotes a young bird well fledged, which, having quitted the nest, is not yet in a condition to fly far, or shift for itself, but still keeps in the bushes or branches about its native dwelling, where it is fed by the dam.

The branches of hawks are also called ramage falcons; those of nightingales, 

The branchery, in the Anatomy of Vegetables, denotes the vascular parts of divers fruits, as apples, pears, plums, and berries. In which nature the branchery stands contrariwise distinguished from the skin, pulp, &c.

The branchery of an apple is only the ramifications of the ligneous body through all the parts of the parenchyma; the greater branches being likewise, by the incisions of the leffer, united together. 

**BRANCHIA**. See GILLS.

**BRANCHIADAE**, in Ancient Geography, a people who are placed by Quintus Curtius towards the Oxus, and by Strabo in Sagitania, the adjacent country.

**BRANCHIALE**, in Natural History, a name given by 

Mr. Llwyd to a peculiar species of fungite, which being of a deeply filivated texture, is supposed to resemble the gills of a fish.

**BRANCHIADAE**, in Antiquity, priests of Apollo serving in his temple at Delphi, near Miletus; which was famous for its oracle. The temple of the Branchiades, or, as it was afterwards called, of Apollo Didymæus, together with the oracle, were seated on the mountain called Poldenum, at the distance of 20 or 22 stadia from the shore, and 100 from the city of Miletus; and both are recited as occupying this spot before the Ionic migration. The appellation "Branchiades," was derived from a very noted family, so called, which continued in possess-ion of the priesthood till the time of Xerxes, deducing its pedigree from the real or reputed founder, and original proprietor, "Branchus." Several of these sacred tribes flourished in Greece, and intermixed, as the Branchiades did, fable with their genealogy; and with a view of conciliating from the people a greater respect for their progenitor, ranked him far above the level of common humanity. The story of the Branchiades is so ridiculous to be recited; and we shall, therefore, refer for the relation of it to Varro. By some, however, this name is derived from Branchus, a Thessalian youth, beloved by Apollo, who received him into his own temple, and commanded that divine honours should be rendered him after his death. Stephanus Byzantinus informs us, that this oracle was sacred to Jupiter, as well as to Apollo; and probably both these deities, as well as Branchus, were honoured in this temple. Whatever be the origin of the oracle, it is certain, that it had acquired a very early and extensive reputation at Branchida; and it was particularly consulted by Chrysippus, who was profusely munificent upon these occasions, dedicating his choice treasures to a vast amount, in the same manner as at Delphi.

The Persians, under Xerxes, the son of Darius, afterwards despoiled this temple and oracle of all their wealth, and then destroyed it by fire. The Branchiades, who had betrayed this temple and oracle into the hands of the Persians, became, on the miscarriage of Xerxes the voluntary companions of his flight, in order to avoid the punishment of their treachery and sacrilege, and settled among the Bactrians, in a region far removed from Greece. However, the descendants of those who had fled with Xerxes, were cruelly extirpated by Alexander the Great; thus visiting the sins of the fathers on the children, in a manner which will for ever reflect the greatest odium on the memory of the perfidious tyrant, who, after receiving the submission, put them all to the sword, and erased even the velleities of their towns: so that the city remained a bare silhouette and barren walk.

Although the Milicians were too much impoverished and deprived to attempt an immediate restoration of their temple, after the conclusion of the Persian war, they exerted themselves at a subsequent period, not precipitately, in rearing the fabric from its ruins; and the architects employed by them for this purpose, were Poesius, an Ephesian, and Daphnis, of Miletus. With what magnificence and prodigious spirit this new edifice was designed, may in some measure be inferred from its present remains. Strabo has termed it, "The greatest of all temples:" adding, that it continued without a roof, on account of its magnitude. Pausanias mentions it as one of the wonders peculiar to Ionia; and Vitruvius numbers this among the four temples which had raised their architects to the summits of renown. In this city was the famous statue of Apollo, formed by Canthius, a Sicelian, who had been a scholar of Polyeuctus the Argive; it was carried away by Xerxes, and restored by Seleucus Nicator. It is said, that the oracle of this Milician temple became silent, when it was defaced by the Branchiades, and that it afterwards refumed its prophetic and oracle faculties. After Paganini began to decline, this oracle continued in some repute, and the emperor Julian was very solicitous to reinstate the god in the full possession of his Ionian territory; which, however, he was constrained to yield up to Chaldaian, soon after the death of the royal apollate. Strabo, Geoj. tom. ii. p. 517—634—814. Pausanias, Græc. Descrip. p. 355. 694 ed. Kühni. Ionian Antiquities, by Chandle. Keewett and Pars. 1769.

**BRANCHIER, Sr.** in Geography, a town of Switzerland in the Valais, seated near the river Drance. N. lat. 46° 5′. E. long. 7° 3′.

**BRANCHING**, the ramifications or sprouting of the horns of deer, &c. which bears an analogy to the vegetation of plants. Phil. Trans. No. 227.

The hair at the ends is apt to branch, or split and divide into whole branches, which are easily visible by a microscope.

**BRANCHIOPODA**, in Entomology, a genus of crustaceous insects established by late continental naturalists to include those species of the Linnaean cancri, and gammarus of Fabricius, which have four simple, fetaeous, unequal antennæ; the body oblong, and dilidute of feet, but in lieu
of which each side is furnished with either a single, or a double series of obovate, ciliate, branchioidous appendages, which are formed for swimming; and the tail naked, jointed, long, and forked at the extremity.

The two species of this new genus, described by Herbert, Duchoine, and Dole, are le branchipode flagellum, which is cancer flagellus of Linnaeus, and a second form delineated by Herbert, called le branchipode palладiwm.

BRANCHIOSTEGA, in Zoology, a kind of cory-phemata, having for the aperture of the gills a transverse cleft, or opening. It inhabits the Atlantic seas.

BRANCHIOSTEGI, in Ichthyology, a term employed for that natural order of fishes which have gills deflected by bony rays. The genera branchioidous fishes are: mormyrus, obturans, tetron, dionys, fungu, pegasus, centu, ligu, cyclo, and liphis.

BRANCHUS, in Medicine. The heart of which accompanies a cataract is so called from ἐβδομάδα, to be moist. See CATARRH.

BRANCHUS, or branchus, also denotes a kind of glandular tumor in the fæces, resembling two almonds, which render the breathing and hawking difficult.

BRANCTION, in Geography, a small town of France, in the department of the Saone et Loire, 1½ league W. of Tournus.

BRANCO, an island in the gulf of Mexico, and bay of Campasch, between cape Condeco, or point Delgado, and Vera Cruz.

BRANCOVAN, a town of European Turkey, in the province of Walachia; 28 miles N. of Nicopolis.

BRANCOURT, a town of France, in the department of the Aine; 10 miles W. of Lomn.

BRANCZYCE, a town of Lithuania, in the province of Novogrod; 10 miles N. of Sluck.

BRAND, in Agriculture, the name of a disease to which corn, and some other grains, are subject. "It is a sort of fungus, which derives its nourishment from the vegetable. Of these fungi, there are several species. One of them is named by Dr. Withering (Bot. Arrang. vol. iv. p. 338) "Reticularia S-quetum," and in a pamphlet upon Brand, by the Rev. Henry Bryant, entitled, "A particular inquiry into the causes of that disease in wheat commonly called Brand; &c." Norwich, 1785, it is called "Dust Brand." In other places its usual name is "Smut," or "Burnt Corn." This species is common to wheat, oats, barley, and rye. The feel of the husks, and other grains, are also affected by it. It is distinctive of scent, and confounds not only the fumaceous part of the grain, but even the ear and chaff, dispersing itself entirely before the corn is cut; so that the injury occasioned by it is confined to the quantity of grain destroyed by it, which is not very great in any field. The ear is often affected by this reticularia before it emerges from the scutum vaginum, or hofe; but about the root there is no appearance of disease. Barley and oats are more frequently attacked by it than wheat; which circumstance may be accounted for by the latter being usually dusted for sowing. Mr. Lathbury examined the dust of this fungus under a powerful magnifier, and thus found, that it consisted of a number of minute particles, uniform in shape and size, much smaller and blacker than those of the "pepper brand," and less easily separable, and they seemed to be contained in little irregular cells. This dust, or seed, is the food of a small, thin-winged, black dermestes, the "Tenebres ster," of Marham. Another species which Mr. Bryant distinguished by the name of "pepper brand," is also called simply "brand," or "bladders." This species does not eat through the scutum, containing only the fumaceous part of the grain. The ears affected by it are easily discovered by their external aspect; for the chaff opens as if unnaturally inflated, the germ becomes shorter and rounder, and exhibits the appearance of swelling, and a sort of inflammation; the grain turning in this state a deep and dingy hue, easily broken when rubbed, and furnishing a foamy powder, which fills the fingers, and emits a very fetid scent. This species is very prejudicial to the farmers; because it is carried with the corn into the barn, and when broken under the flail it diffuses and otherwise injures the sample, to no end to render it unsalable, or to reduce its price. For the prevention of this evil, farmers generally drain their seed-wheat with various preparations: some use a licentious of wood-salts and water; others, sift and water only, or sea-water; when it can be easily procured; others, the bony from the soap-bottles; others, again, urine and cheese-whey; and others, it is laid, have infested arsenic for this purpose. All, as Mr. Kirby believes, dry their feed with fresh backed line. From this practice we may infer, that the disease is supposed to originate from the adhesion of the dust or seed of the brand to the seed of the wheat; and these methods are adopted for the purpose of washing it off, or destroying it. The ultimate cause of this disease has not been variously ascribed. Mr. Bryant (ubi supra) strenuously maintains, that it is occasioned by an injury which the anthraco, receive by too great contrivances, when the ear emerges from the sulcum vaginum; and the car discharges the common practice of dressing the feed, as not only useless, but detriutive of the grain. Some take the dust for the eggs of insects; and others adopt the opinion, with which Mr. Kirby coincides, that this evil is occasioned by a minute vegetable of the order of "Fungi." Mr. Bryant's method of accounting for this disorder is acknowledged by this ingenious naturalist to be plausible; but he conceives that it is founded on no arguments which can convince one who is in search not of theories, but of truth. From a variety of experiments made by the Rev. Peter Lathbury, E.L.S., and recited by Mr. Kirby, (ubi infra) together with other facts that occurred within his own knowledge, he concludes, without hesitation, that the practice of dressing the feed previous to sowing, in the way above-mentioned, is a very judicious prevention of the brand.

Rejecting Mr. Bryant's hypothesis, and also that of the brand's being produced by insects, Mr. Kirby proceeds to establish the third opinion, that the disorder is occasioned by a vegetable substance. The fact, established by the experiments which he recites, that the dust of brand, carried into the field with the seed-wheat, like other vegetables, propagates itself, gives (he says) the highest degree of probability to this opinion. It is further confirmed by the recital of an experiment of Mr. Lathbury, of sowing it, as it were, upon its native soil (especially in the case of wheat taken from a clean sample), which seems to have occasioned the destruction of three-fourths of its produce. Besides, this dust, when placed under a powerful magnifier, exhibits every appearance of minute feed. As to the manner in which these feeds vegetate and ascend from the seed with the growing plant, till they reach the heart of the grain, it is a subject of inquiry that may be extended to a great number of the fungi, which without impropriety may be denominated "fumaceous" vegetables. With regard to the brand in particular, it is fogged, as a probable conjecture, that the uncommonly minute feeds of this fungus may attach themselves either to the "plumula," and to paths through the air-vesels into the plant; or else to the "cotyledons," which seems most likely; and in that case they may be propelled through the sap-vesels with the sap.
BRA

till they at length arrive at their final seat, the heart of the germs. See observations upon certain fungi, which are
parasites of the wheat, by the Rev. William Kirby, F. L. S.
in the Linnean Transactions, vol. i. page 112. &c.

BRAND, in Geography, a town of Germany, in the circle of
Erzgebirg, chiefly inhabited by miners; 2 miles S. of
Trebey.

BRANDSUND, Dimanche des Brandons, in French
Ecclesiastical Writers, denotes the first Sunday in Lent; which
is thus called on account of an ancient practice in the Lin-
nois, where the peatants, in the night of this day, walked
about their orchards, garden, &c. with torches lighted, or
fire-brands in their hands; in which plight they visited every
tree, and addressing themselves to them one after another,
threatened that if they did not bear fruit well the ensuing
feast, they should be cut down to the ground and burned.
This is evidently a relic of paganism; the like of which was
practiced by the ancient idolaters in the month of February;

BRANDAN, in Geography, a town of the East Indies,
in the island of Java, belonging to the king of Sourahaya.

BRANDANO, a river of Italy, which runs into the gulf
of Tarento, 10 miles S. of Castellanetta, in the kingdom of
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BRANDARIS, in Conchology, a sort of Murex, com-
mon in the Mediterranean and Adriatic sea. The shell is
somewhat ovate, and surrounded with straight spirals; bears
moderately subulate, slight, and obliquely surrounded
with spines. Gmelin, &c.

Many varieties of this shell are described by writers; gen-
erally the colour is white, whitish, cincereous, or brown, with
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BRANDELIS, in Geography, a town of Bohemia, in
the circle of Koniggratz, leant on the river Orlist; 21 miles
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menced a master himself. Moll of the churches at Prague
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chappy of Anhalt, and part of the duchy of Magdeburg.
its greatest extent from west to east is about 200 miles, and
from north to south about 110 miles. The country is gene-

ually level, and the soil sandy and barren, but by the indus-
try of the inhabitants rendered productive of several sorts of
grain. They find, however, that the only very profitable
crop upon these lands is buck-wheat, which they sow in
large quantities, and which yields a product equal to that of
the bell foils applied to that grain. When a piece of land
has been managed with greater care than ordinary, it will
yield a good crop of rye; but wheat and barley are rarely
to be seen. In some parts the inhabitants cultivate millet
and flax; in other parts, potatoes and turnips; and again in
others, tobacco and wood for dyeing. By various improve-
ments of modern times, the waffle lands and the large mor-
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crop upon these lands is buck-wheat, which they sow in
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the bell foils applied to that grain. When a piece of land
has been managed with greater care than ordinary, it will
yield a good crop of rye; but wheat and barley are rarely
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Mark is again subdivided into the Old Mark, the Vor-Mark, or Mark of Prignitz, the Middle Mark, and the Ucker Mark.

The Old Mark, extending from east to west about 9 German miles, and from north to south about 11 miles, is separated, towards the east, by the Elbe from the Prignitz and the duchy of Magdeburg, and bounded also by the latter to the south and likewise, in part, to the west, but in other parts by the duchy of Lauenburg. It contains 13 cities, of which the capital is Stendal. Its taxable lands are 80,578 hides.

The Vor-Mark, or Prignitz, is terminated by the Elbe and Havel, the duchy of Mecklenburg, and the circles of Ruppin and Havelland in the Middle Mark, and is 10¼ German miles in length, and ⅔ in breadth. It contains 20 towns, the principal of which is Perleberg. The hides of land that pay taxes are 5,211.

The Middle Mark is bounded by the Prignitz, the duchies of Magdeburg, and the electorate of Saxony, the Lower Lusatia, the New Mark, the Ucker Mark, and the duchy of Mecklenburg. The most fertile part lies near the Oder, in the circles of Havelland and Ruppin: the marshes have been drained, and the inhabitants cultivating millet, malt, and buckwheat, producing also wine, and breeding silk-worms, and having manufactures of alum and vitriol, and some medicinal springs. Among its cities and towns, which are reckoned 48, the chief are Berlin, Brandenburg, and Potsdam; and its hides of taxable land are 24,901.

The Ucker Mark terminates to the south and west on the Middle Mark and the duchy of Mecklenburg, from the latter of which it is principally separated by the Havel; and to the north and east on Pomerania and the New Mark, being mostly separated from the former by the Wehe and Rando, and from the latter by the Oder. Its greatest extent is about 13 German miles in length, and 11 in breadth. This province was anciently called the Ucker, or Uckerland, from the river and lake of that name; and the title of the Ucker Mark was first applied to it towards the latter end of the 15th century. If we except a narrow slip, which runs along the Middle Mark, from the frontiers of Mecklenburg towards the Oder, it consists of a very good soil, which, by the industry of the inhabitants, has been so much improved, that the province annually exports great quantities of grain, and more particularly supplies Berlin. It also produces a great number of sheep, fruit, honey, hops, and tobacco. The inhabitants are Lutherans, but not without a mixture of French and German Calvinists. The whole territory is divided into the two circles of Ucker-Mark and Stolp, and contains 15 towns, of which the capital is Prenzlau. The hides of land that are taxable are 6,379.

The New Mark is a long narrow tract of land, separated to the west from the Middle and Ucker Marks by the Oder, terminating to the north on Pomerania, and southward on Pomerania, Poland, Silesia, and the Lower Lusatia, and extending about 40 geographical miles in length, and in breadth 10 miles. Although the soil is generally sandy, this province has some good corn lands, and near the rivers luxuriant pasture grounds and marshes, the grafs of which are coarse and sandy. It abounds in wood, and supplies fruits, fish, and game. The incorporated circles produce wine, and yield great quantities of iron ore. The New Mark, properly so called, extends from the river Rega to the river Warte; and contains, according to the statement of Hooeck, 279,584 inhabitants. It appears to have been in the possession of the margraves of Brandenburg as early as the year 1257; it was transferred by Otho the Tall to the knights of the Teutonic order in 1286, but soon redeemed. In 1429, it was wholly ceded to the same order; and in 1443, the cession was confirmed at Frankfort, by the elector Frederick II. But in 1455, their circumstances required the sale of it, and it was purchased by the said elector; and since that time it has remained in the house of Brandenburg, under the appellation of the New Mark. It has a regency of its own, courts of justice, and other colleges. It consists of Celle, or Kufstein, which is the capital, seven original circles, and four incorporated circles. Its cities are reckoned to be 39; its hides of taxable land 16,738; and the value of the estates is estimated at one million of dollars.

The ancient inhabitants of Brandenburg are said to have been the Suevi, of whom there are several subdivisions. As the Romans pursued their conquests as far as the Elbe, about the commencement of the Christian æra, they were probably acquainted with this country. However, the Vandals checked their further progress in this direction; but, about the fifth century, they repaired more to the south, abandoning their own country to the Wendis, Veneti, or Heneti, who, being too much confined by the Vistula, occupied the territory which the Vandals had abandoned, and policed themselves of the whole country along the southern side of the Baltic, formed there a new nation, known by the general name of Slavini or Slavonians, who were a barbarous people of very extensive migration, and invertebrate enemies to the Christian religion. With the kings of the Franks, and especially Charlemagne, had frequent wars, and his successors were indefatigable in their endeavours to subdue them. At length, Henry, surnamed the Fowler, succeeded, about the beginning of the 10th century, A.D. 927, in the conquest of them, and planted Christianity in the country. He then conferred it on his brother-in-law Sigfrid, a Saxon count, with the title of margrave or lordwarden of the marches or borders; and he, with his successors, new planted and peopled it from the Netherlands, Wellphalia, Franconia, and Saxony. At first this title was conferred by the emperor according to his own arbitrary pleasure; and it did not become hereditary till the time of Albert, surnamed the Bear, the first prince of the race of Asauhelt, who was made margrave by Conrad II., and afterwards raised to the dignity of an elector by Frederic Barbarossa, about the year 1130. When this family became extinct in 1332, several others succeeded; and, in 1373, the emperor Charles IV. assigned Brandenburg to his second son Sigismund, who, in 1415, being then emperor of Germany, sold this margravate and electorate to Frederic, burgrave of Nuremburg, for four hundred thousand ducats. Frederic, the ancestor of the present reigning race, received the investiture of Brandenburg, in 1417, at the dict of Constance, from the hands of the emperor Sigismund, who, two years before, had conferred upon him the dignity of elector and archchamberlain of the holy Roman empire. This Frederic was the first elector of the house of Hohenzollern, which some German genealogists have traced to Thasillo or Taillon, who lived in the beginning of the 9th century. From Frederic the electorate descended, through different branches of the family, to Joachim II., who, in 1539, embraced the Lutheran religion, and who, whilst the war of religion devastated Saxony, and the neighbouring countries, maintained his electorate in peace; having declined to enter into the union which the Protestants concluded at Smalkald; nor did he agree to the interim published by the emperor Charles V. In 1618, the elector, John Sigismund, received from the king of Poland, the investiture of Posen for himself and his descendants; and resigned the electorate in favour of his son George William, who, in 1649, was succeeded by his son, Frederic.
Frederic William, surpassed the Great, born at Berlin in 1620, and educated in the camp of Frederic Henry, prince of Orange. When he came to the government, he found a defalcated country in possession of his enemies, allies in whom he could repose no confidence, few troops, and almost no resources of supplies. Nevertheless, he compelled the king of Poland, in 1657, to declare Prussia an independent state, which had been formerly held of the Polish sovereign; and closing a reign, which had been much celebrated, was succeeded, in 1688, by his son Frederic III., born at Königsberg, in 1617, who, supporting the emperor in the contest for the Spanish succession, was, by him acknowledged as king of Prussia, in 1690, and in the following year crowned by the emperor at his native place. This elector has been officially distinguished by the title of Frederic I. He died in 1713; when his son Frederic William II., ascended the throne. By him the city of Potsdam was founded in 1712; but he was chiefly distinguished as the father of that great prince Frederic II., who ascended the throne in 1740, and died in 1786, after a long and glorious reign; the most memorable and permanent event of which was the acquisition of Silicia from the house of Austria, in 1742. The short reign of his nephew is well known; during which the failure of the Prussian tactics in France and Poland, convinced Europe, that the great Frederic had been the soul of the machine. However, these checks were counter-balanced by the completion of the Prussian acquisitions in Poland. Of the reign of his son, the present monarch, it is sufficient now to say, that it has been marked by caution and prudence more than by enterprize. See Prussia.

The elector of Brandenburg possesses the seventh place among the electors of the empire; and in the council of the princes of the empire he has five voices. As arch-chamberlain, he carries the sceptre before the emperor at his coronation, and brings him water to wash with in a silver basin. For the government of Brandenburg, and the administration of justice, there are several supreme councils and tribunals.

Brandenburg, an ancient city of Germany, in the circle of Upper Saxony, and the margraviate to which it gives name; situate on the Havel, which separates the old town from the new, and the castle from both, and likewise environ the new town to the left with a particular trench, on which a fence has been erected. Both these towns have, ever since the year 1714, been under the government of the family of Waldersee; and each of them contains two churches, the number of inhabitants does not exceed 6000. It was erected into an episcopal see by the emperor Otho I. in 919, but the see was abolished at the reformation, in 1563. Manufactures of cloth, fulling, and canvas have been established in this place by the French Calvinists; and the navigation of the Havel affords it a considerable trade. The fort appears like a suburb, and contains, besides the cathedral church, and refuges for the members of the cathedral, a riding school for the instruction of young noblemen. The members of the chapter, which fill subfunds, and which is composed of a Lutheran provost, dean, sub-dean, and three other canonists, are distinguished by a crock of gold, enamelled with violet, and terminating in eight points: an honour conferred by Frederic II. in 1755. In the vicinity is a mountain, on which Henry I., in 922, erected a church in honour of the Virgin Mary, from which time the mountain had the name of "Marienberg." The church has been destroyed, and its site planted with vines. Near the old town is a lake, about two German miles long. Brandenburg is 18½ miles W. from Berlin. N. lat. 53° 57'. E. long. 14° 31'.

Brandenburg, New, a town of Germany, in the circle of Lower Saxony, and duchy of Mecklenburg, feoted on a small rivulet, which loses itself in a neighbouring lake. The town is flourishing, and has two churches, a grammar-school, and a superintendency. Hops are much cultivated in its environs; 48 miles W. of Stettin, and 60 N. of Berlin.

Brandenburg, a town of Prussia, in the province of Natangen, near the Fricke-Fluss, chiefly inhabited by fishermen; 12 miles S. W. of Königsberg.

Branden, in Entomologia, a species of Cenex, that inhabits Sarabry, the front of which is bent; thorax some what fix-imped; veins with three white dots. Gmelin.

Brandery, a species of Phalena, described by Linnaeus in Entomologia. The first wings are tattaceous, fuscous, and without spots. A native of Europe.

Branderm, in Geography, a town of France, in the department of Morbihan; league L. E. of Hennebont.

Brandenboom, in Ecclesiastical History, a linen cloth or veil put over the tombs of the apollies St. Peter and St. Paul, and left there for some time: by which it is supposed to acquire a degree of sanctity, so as to be worshipped as a relic; and for that purpose frequently lent by the pope as a present to foreign princes. In this leaf, brandenboom amounts to the fame with what is otherwise called frankentum, fuldarium, ovarium, and valum. The use of brandenboom was introduced as a means of diffusing and propagating the virtues and influences of relics, without moving or any way impairing the substance of them; the translation of relics in early days being forbidden. Fleur. H. E. i. 35. Du-Cange, Gloss. Lat. i. i. p. 920.

Brandegans, in Ornithology, the name given by Clusius and Frisch to the fieldlark or burrow duck, anas tadorna, Linnaeus.

Brandeguth, in Geography, a town in Germany, in the circle of Upper Saxony, and country of Erzgefähr; 4 miles N. E. of Lauterlein.

Brandhirsch, in Zoology. See Cervus hippelaphus.

Brandi, Giacinto, in Biography, an Italian painter of history, was born at Poli, about 20 miles from Rome, in 1623, and first instructed by Algarde, and afterwards, by Giacomo Sementa of Bologna, who painted after the manner of Guido. Upon quitting the school of Sementa, he became a disciple of Lanfrance; and having exercised his art in several of the churches and palaces at Rome, he rose to such reputation, that he became head of a school, and was made president of the academy of St. Luke. He obtained the patronage of several princes of rank, and especially that of the pope, who created him a knight of the order of Chiriol; but less attentive to fame than fortune, and more remarkable for avarice than excellence, although he had a lively genius and free pencil, he was often very incorrect, and his colouring was feeble. He seldom associated with personages of his own profession, of whom he generally expressed an unfavourable opinion: but took pleasure in low company, dissipating by prodigality and pleas, the wealth which his industry acquired. He died in 1634. His works are chiefly at Rome, Verona, Milan, and Guta. The daughter of this painter was married to the celebrated Rafa da Tiroh, of whom Giacinto conceived a mean opinion, because he painted only scenes. By this contemptuous behaviour Rafa was so incensed, that he collected all the clothes belonging to his bride, on the morning after marriage, and sent them back to her father, with a message, "that his daughter's person was fortune enough to make her husband happy; and that a good painter of scenes was likely to become rich, as a bad painter of men," Argenville. Pilkington.
BRANDING in the face or hand, denotes a punishment inflicted by law on various offences, by burning with a hot iron, after the offender has been once admitted to benefit of clergy.

By 4 Hen. VII. c. 13, a distinction was established between clerks and scholars, and being in orders, by directing, that a layman, who are allowed the privilege of clergy, should be burnt with a hot iron in the brawn of the left thumb. This distinction, however, was abolished for a time by 28 Hen. VIII. c. 1, and 32 Hen. VIII. c. 3, but it is held to have been virtually reëstablished by Edward VI. c. 12. After this burning, the laity, and before the clergy, were dischared from the sentence of the law in the king's courts, and delivered over to the ordinary to be dealt with according to the ecclesiastical canons. But the trial in the ecclesiastical courts, and consequent purgation, were attended with such perjuries and abuses, that the statute 18 Eliz. c. 7, enacted, that after the offender had been allowed his clergy, he should not be delivered to the ordinary; but, upon such allowance and burning in the hand, he shall forthwith be enlarged and delivered out of prison; with proviso, that the judge may, if he thinks fit, continue the offender in gaol for any time not exceeding a year. Thus the law continued for above a century; except only that the statute 21 Jac. I. c. 6, allowed, that women convicted of simple larcenies under the value of 10s. should be burned in the hand, and whipped, flogged, or imprisoned for any time not exceeding a year. And a similar indulgence by the statutes 3 & 4 W. & M. c. 9, and 4 & 5 W. & M. c. 24, was extended to women guilty of any clergyable felony whatsoever, who were allowed to claim the benefit of the statute, in like manner as men might claim the benefit of clergy, and to be dischared, upon being burned in the hand, and imprisoned for any time not exceeding a year. The punishment of burning in the hand, being found ineffectual, was also changed by statute 10 & 11 W. III. c. 23, into burning in the most visible part of the left cheek, nearest the nose; but this provision was repealed by statute 5 Ann. c. 6. It was farther enacted by the same statute, that when any person is convicted of any theft or larceny, and burnt in the hand for the same according to the ancient law, he shall also, at the discretion of the judge, be committed to the house of correction or public work-house, to be there kept to hard labour for any time not less than six months, and not exceeding two years; with a power of inflicting a double confinement in case of the party's escape from the first. It was also enacted by 4 Geo. I. c. 11, and 6 Geo. I. c. 23, that when any persons shall be convicted of any larceny, either grand or petit, or any felonious stealing or taking of money or goods and chattels either from the person or the house of any other, or in any other manner, and who by the law shall be entitled to the benefit of clergy, and liable only to the penalties of burning in the hand or whipping, the court, in their discretion, instead of such burning in the hand, or whipping, may direct such offenders to be transported to America, (or, by statute 19 Geo. III. c. 74, to any other part beyond the seas) for seven years. See TRANSPORTATION. It is also enacted by the same statute, 19 Geo. III. c. 74, that, instead of burning in the hand, the court in all clergyable felonies may impose a pecuniary fine, or (except in the case of manslaughter) may order the offender to be once or oftener, but not more than thrice, either publicly or privately whipped; which fine or whipping shall have the same consequences, as burning in the hand; and the offender, to fined or whipped, shall be equally liable to a subsequent detainee or imprisonment. See Benefice of Clergy.

BRANDIS, in Geography, a town of Germany, in the circle of Upper Saxony, and territory of Lepidick; 9 miles E. of Lepidick.

BRANDELCHT, a town of Germany, in the circle of Westphalia, and county of Bentheim; 3 miles S. S. E. of Northum.

BRANDMULLER, GREGORY, in Biography, a painter referred by the Germans to the first rank of artists, was born at Baffe in 1461; and, in confluence of having discovered a genius for his art, and of having acquired a knowledge of design by studying and copying some good prints in his father's poesifion, he was placed under the tuition of Caspar Meyer. From Baffe he removed to Paris, and was admitted into the school of Le Brun, whose esteem and preference he acquired by his proficiency in his profession to such a degree, that he became the object of jealousy to others, and was under a necessity of retiring into his own country; having first obtained the prize in the Royal Academy at Paris. He excelled in history and portrait; and resembled Le Brun in the fire, elevation, and grandeur of his subjects. His design is correct; his expression just and animated; and his method of colouring good, so that it retained its original strength and beauty without fading. He died in 1601. Pilkington.

BRANDO, in Geography, a small island in the gulf of Bothnia, containing 6 or 7 villages, a church, some arable land, and small woods.

BRANDO, a town in the island of Corfica; 6 miles N. of Balla.

BRANDOLINI, Aurelio, in Biography, an eminent Italian poet, divine, and polite writer, was born of a noble family at Florence in the 15th century, and surnamed "Lippus," on account of a deflation from his eyes, which, at an early age, had nearly deprived him of his light. Notwithstanding this misfortune, he acquired great eminence in various kinds of literature; and he found in these, sources of consolation, amidst the afflictions occasioned by a defect of sight, and the loss of his fortune. Among other excellencies for which he was distinguished, he was singularly ready in his poetic compositions: and this talent he possessed in an eminent degree, that he is said to have put into very elegant verse, without premeditation, all the topics of Pliny's 37 books of Natural History. Corvins, king of Hungary, hearing of his fame, invited him to his court; and employed him, for several years, in teaching rhetoric at Buda and Gran. After the death of that king, in 1490, he returned to Florence, and assumed the habit of the friars of St. Augustin. In this new profecion, he applied affidually to the exercise of his ministry, and preached, with great applause, to crowded audiences in several parts of Italy. As to the character of his sermons, it is said, that they were distinguished, not only by ingenious illustrations of the Scriptures, but also by a strain of sublime philosophy derived from the ancients. After residing for some time at Naples, where he had for his scholar Gammaria del Monte, afterwards pope Julius III., he settled at Rome, and died there of the plague in 1498. The most valuable of his numerous works were his 3 books, "De Ratione Scribendi," containing the precepts of good writing, and written with singular learning and elegance; his two books, entitled "Christian Paradoxa," first printed at Bafil in 1543, 8vo; "De Humane Vitae Conditione, et tollenda Corporum Egregiudine," Th ese, with some others, were printed at Bafil in 1598. He also published, in heroic verse, the histories of the O. and N. T., a commentary on St. Paul's epistles, a treatise "De Leges," some orations, and some Latin and Italian poems; and left, several treatises in MS. on political and historical subjects. Tiraboschi. Gen. Dict.
BRANDON, in Geography, a market-town of Suffolk, England, is pleasantly situated on the banks of the River Ouse, which is navigable from Lynn to Thetford, and forms part of the boundary between the counties of Suffolk and Norfolk. By the navigation of this river, various articles of trade and commerce are imported, and exported from the town. An ancient bridge is thrown across the river, upon which was a terracotta in 1426, belonging to the bishop of Ely. Upon the decay of this structure, that prelate granted 40 days' pardon to all persons who contributed towards its repair, and, as a mark of this, a pardon for three years. This town gives the title of Duke of Brandon to Archibald Hamilton, that title being first conferred by Queen Anne in 1711.

Simon Eyre, lord mayor of London, who built Leadenhall, was a native of this town. Here are a weekly market on Thursdays, and four fairs annually. In the vicinity of Brandon, there are very extensive rabbit Warrens, which supply the London markets with vast numbers of this animal.


Brandon, a township in America, in Rutland county, Vermont, situates on both sides of Otter Creek, containing 637 inhabitants; about 60 miles N. of Bennington. Here Brandon Creek discharges itself into Otter Creek, from the North Earl.

Brandon, a harbour on the N. side of Long Island, New York, 9 miles W. of Smithtown, and at the same distance from Hempstead plain.

Brandon, St. the name of an islet or rock lying in the Indian Ocean, to the N.E. of the island Bourbon and Mauritius. S. lat. 10° 45'. E. long. 64° 48'.

Brandon, a mountain in the county of Kilkenny, Ireland, below which the river Bann flows; it is the seat of the granite chain which forms its base in the county of Wicklow, and though its elevation is not remarkable, it commands a very extensive prospect.—Also, a very high mountain in the county of Kerry, Ireland, which is seen at the distance of 15 leagues, and is an important land-mark for mariners. Its summit is generally covered with clouds; and it is esteemed a certain token of fine weather when its top is visible. It received its name from St. Brandon, who had an oratory, or chapel, near its summit.

Brandon Bay, a bay on the western coast of Ireland, near Tralca bay, in the county of Kerry. On the west it has Brandon mountain, and, on the east, a flat low land called Magherielin, off which is a cluster of small islands. This bay is open to the north, and has neither safe anchorage nor tolerable shelter. Smith's Kerry.

Brandon Head, a cape of Ireland, forming the western extremity of Brandon bay, and projecting from the lofty Brandon mountain. It is about 15 miles wide at Tralca, and 10 north of Dingle. N. lat. 52° 17'. W. long. 10° 1'.

Beaufort.

BRANDRITH denotes a trout, or other river fish, wherein to set a fisher over the fire.

BRANDRITH, among Builders, denotes a fence, or rail, about the mouth of a well.

BRANDT, Gerard, in Biography, an eminent historian, was born at Amsterdam, in 1626, and, after a course of preparatory study, commenced his ministry with a congregation of remonstrants at Nieuwkoop. Having married a daughter of the celebrated Gaspar Barlaeus, he removed thither to Hoorn, and finally to Amsterdam in 1667. His principal works are, "A short account of the Reformation in the Low Countries, and the War with Spain," 1658: "History of the Reformation, and other particulars concerning the Church of the Low Countries," 4 vols. 1671, &c. This work, written in Dutch, contains a faithful and accurate representation of the important events, concerning which it treats; and, though highly was it esteemed, that peripatetic Fugel told bishop Burnet that the perusal of this alone would amply recompense the trouble of learning the Dutch language.

We have an English translation of it by Chamberlayne, and it has been abridged in French, in 3 vols. 1670. Brandt also wrote "A History of the Town of Enkhuizen," "Life and Exploits of Admiral Ruysbroeck," "Account of the Proceedings against Barneveldt, Hoogerbeets and Grotius," "Poems," &c. He died in 1695.

BRANDT, Nicholas, or, as some call him, Sebastian, a German chemist, much addicted to the fanciful researches of the period in which he lived, was born in 1588, and died in May, 1651. Leibniz, in the Mélanges de Berlin for 1710, cited by Chaptal, in his "Elements of Chemistry," vol. iii. p. 350, mentions Brandt as a chemist of Hamburg, who, during a course of experiments upon urine, with a view of extracting a fluid proper for converting silver into gold, discovered phosphorus in 1667, or, as others say, in 1669. He communicated his discovery to Kraft, who imparted it to Leibniz, and, as it is pretended, to Boyle. (See Boyle.) Leibniz, says Chaptal, introduced Brandt to the duke of Hanover, before whom he performed the whole operation; and a specimen of it was sent to Huygens, who fixed it to the Academy of Sciences at Paris. It is said, that Kunckel had associated himself with Kraft to purchase the process from Brandt; but Kunckel having been deceived by Kraft, who kept the secret to himself, knowing that urine was made use of, let to work, and discovered a process for making the substance; and hence it has been called Kunckel's phosphorus. See Phosphorus.

BRANDY. This valuable spirit is produced by the distillation of wines of all kinds, and, properly speaking, by no other fermented liquor, though, as we have explained fully, under the article Alcohol, the purely spiritual part of all fermented vinous liquors, procured by distillation, is essentially the same; and, therefore, an infinite variety of imitations of the intermediate products of distillation may be produced by adding flavouring and colouring matters to any kind of pure spirit.

Brandy is prepared in many of the wine countries of Europe, and, with particular excellence, in Languedoc, in Anjou, whence the well-known Cognac brandy, and other parts of the south of France.

The general mode of preparing it is extremely simple, being nothing more than a well-regulated distillation of wine from suitable vessels. This manufactory is technically termed, in France, Brudere, and in England, Brudere d'eau de vie.

Though every wine will give a certain portion of brandy, by distillation, it is not every kind that can be used with advantage. In general, the strong heavy wines are to be preferred. Those that do not yield a fifth of their quantity of spirit, are not worth the expense of working.

The apparatus is composed of three parts, the alembic, or boiler, the capital fitted on the top of the boiler to receive the spirituous vapour, and the fermenting, or warm, a convoluted pipe fitting to the back of the alembic, and immerged in water, in which the vapour is conducted, and flows out at the bottom, in the form of distilled spirit.

The alembic is a cylindrical copper boiler about 30 inches in diameter, and 24 in diameter, flattened at the bottom to prevent a greater surface to the fuel, and drawn out into
into a neck at the top, about 2 inches high, and only 3 or 10 in diameter. The capacity of this alembic is about 320 quarts. The capital, which fits on the neck of the alembic, is somewhat in the form of a very flattened cone, with the apex downwards, and truncated where it joins the alembic. Its diameter here is of course a trifle more than that of the neck of the alembic over which it fits; above, its diameter is about 7 or 8 inches more. A tube, or beak, projects laterally from the lower part of the capital, to convey the vapour into the potter's kerpine or worm, which makes five or seven turns before it reaches the bottom of the large tub of water in which it is immerced. The diameter of the worm is about an inch and a half at the upper part, where it joins the neck of the capital, and leaffs gradually to one inch towards the bottom.

The alembic is built into brick-work, which lines the whole, except the bottom, and a few inches below the neck. Beneath the alembic is the fire-place, made so that the flame of the fuel (generally wood) immediately touches the flat bottom of the alembic, and furnished with an aff-bat, flame, and regillers, or dampers.

In distilling, the alembic is first filled to about five-sixths of its capacity, with wine, (which, in the above dimensions, is from 5 to 6 quintals,) and the fire kindled beneath. When the wine is near boiling, the capital is put on, and all the joints luted with clay and ashes, and presently a thin stream of brandy begins to fall from the lower extremity of the worm, into a large cask fed to receive it. The fire is kept up, and the distillation continued, till all the spirit is got from the wine; after which, the fire is let out, and the remaining contents of the alembic are drawn off by a cock at the bottom, and thrown away as taffels.

In distilling, care should be taken not to urge the fire too much at first, otherwise the wine boils up into the capital, and comes over into the worm, mixing with, and fouling the spirit. In general, the flower the process, and the smaller the stream of spirit from the worm-pipe, the finer and better is the brandy. The distillers make a distinction between the former and the latter runnings of the spirit. What first comes over has the strongest, richest, and highest flavour, and this is gradually lessened, and the spirit becomes more and more watery to the end. Therefore, when the brandy becomes weak, the portion already distilled is set apart, and the remainder is collected in a separate vessel, and is called seconds, or petite eau, or spirit, in the term of British distillers, and is not immediately fit for use, but is redistilled with fresh wine, in the next processes, being still too valuable to be lost. It is obvious, that the precise point at which this distillation is made, must be arbitrary, and, therefore, it is determined, in some countries, by the proportional quantity of spirit obtained, to the wine put into the alembic; and, in others, by a certain specific gravity; in Spain and Portugal, (as with rum in the West Indies,) the skinking of olive oil in the spirit is the established proof. The wine is known to be entirely exhausted of its spirit by taking a small quantity of the liquor at that time distilling over, laying it on the heated part of the alembic, and putting a lighted match to it. If the flame which it gives, takes fire, burning with a blue flame, it is still spirituous; if not inflammable, the liquor is little else than water. It takes about nine or ten hours to run off the quantity above mentioned, in which time about 60lb. of coal is used, when this is the fuel.

Brandy is naturally clear and colourless as water; for the different shades of colour, which it has in commerce, arise partly from the casks in which it is kept, but, chiefly, from the addition of burnt sugar, faunders wood, and other colouring matters that are intentionally added by the manufacturer, and which appear to do neither good nor harm to the quality of the spirit.

There are several ways of judging of the strength of the spirit. Many are mentioned under the article Alcohol. The following is also much used by the dealers: a phial is filled three quarters with the brandy, stopped with the thumb, and suddenly knocked, with some force, against the knee, to prevent breaking it. This rakes a froth on the surface, and, by the size and diminution of the bubbles, a good idea may be formed of the strength of the liquor by those who are in the constant habit of examining samples. This is, however, as liable to error as the trial with gunpowder, burning, &c.; for it is well known, that certain additions may be made to brandy which will very much alter the frothing. After all that has been done, it is still a difficult problem to determine, with perfect accuracy, the strength of all kinds of made spirits, by any shorter method than that of distillation, though the improved hydrometers answer most of the purposes of trade and revenue.

The strength of the spirit, of course, depends on the strength of the wine from which it is made, and this, again, depends on the quantity of saccharine mucilage contained in the must or grape-juice, and the perfection of the fermentation. Generally speaking, the wines of hot climates furnish much more spirit than those of colder; and sweet, rich, well-ripened grapes give much more than the cold, four, watery fruits. The richest wines furnish as much as a third of spirit; and the general average of the wines in the south of France and Spain is stated to be, by Chaptal, about a fourth. On the other hand, some of the northern wines (though perfect as wine) give no more than a fifteenth of spirit.

The principal differences in the quality of brandies are strength, or quantity of alcohol, and flavour, which latter is given, apparently, by several principles contained in the wine. There appears to exist in wine a peculiar aroma, or flavouring principle, which is imparted (somewhat altered, indeed, by distillation) to the brandy procured from it. This, whatever it is, is heightened by every subsequent rectification of the brandy, and is entirely lost when the alcohol or purely spirituous part is extracted. There are also several unpleasant flavours found in different kinds of brandy, and which greatly impair its excellence and delicacy for the table. The flavour of eupyrrea, or burning, is the commonest. This is properly termed, since it is fearfully ever found in the very first portions of any distillation, but increases as the process continues; when the wine, therefore, has undergone a longer impreffion of heat, and when, from the decreasing strength of the spirit, a higher temperature than at first is required to keep the wine boiling in the alembic. This burnt flavour is also more prevalent where the construction of the still is such as to require a longer continuance of the boiling, and may, at any time, be given, by raising the heat much at the end of the process. Though this flavour is disagreeable to the finell judges of brandies in the wine countries, it has become, through the caprice of fashion, an excellence in some exported brandies, and must, accordingly, be given by the manufacturer.

Chaptal, with great probability, attributes this burnt taste, in a great measure, to the presence of the malic acid in the wine, which also appears, in some degree, in the spirit distilled from it. He observes, that the thin or ill-fermented wines contain much of an acid which, by its forming insoluble salts with lead, silver, and mercury, and lime, and by other chemical tests, is proved to be the malic, and it also appears in great abundance in cyder, perry, and other such
harsh wines. All these, when distilled, yield a spirit which is of bad quality, acid, empyreumatic, especially in the hard-distilled portion, and even contains a sensible quantity of the same acid which has passed over in distillation. The addition of ch. kk. alkali, or lime water to the wine does indeed keep down the acid, and prevents it from passing into the spirit, but with a very remarkable diminution of the quantity yielded, and even then, the empyreumatic odour remains. On the other hand, the richer wines are those that are the most free from this acid.

Another substance, which gives a very strong, and molily, unpleasant flavour and smell to brandy, appears to be an essential oil of peculiar nature, which is found in the spirit of some of the richell and fullest bodied wines. The exact nature of the oil is not known, nor can it be well accounted, whether it is different from the common flavouring principle, or aroma of wines, except in being so abundant, as to be in part altered by distillation, and changed thereby from a grateful to a nauseous substance. When spirit, charged with this oil, is rubbed in the hands till dry, a strong ungrateful smell is left by this oil, refembling, in some degree, the breath of drunkards. Sometimes this oil is in such a quantity as to separate, in part, from the spirit as it cools, and is found in the capital, as a concrete, fetty oil, strongly nauseous to the smell and taste. Brandy distilled from this oily wine is, in fact, a saturated solution of this essential oil in alcohol. It is much improved by a second rectification, with the previous addition of pure water, which immediately renders the spirit milky, separates it from a great part of its oil, and, by very careful rectification, the spirit riles much more pure than before. Any artificial solution of an essential oil in alcohol may be rectified, and the oil separated in the same manner.

The manufacture of brandy, in other countries, very closely resembles the French processes which we have just described. Thus, in Spain, the still is filled to four-fifths of its contents with wine, the capital luted on, a fire kindled, and, in about an hour and a half, the spirit begins to come over. About a fifth of the entire quantity of wine is proof-spirit, in which olive oil is added, and comes over at first to be used, without further process; and, as much of inferior and weaker spirit comes over afterwards, which is rectified and rectified. When the wines are old, heavy, and oily, and a fine clear spirit is wanted, some water is added to the wine before distillation, to keep down the oil. The principal distilleries in Spain are in Catalonia.

In Portugal, the olive-oil proof is also employed, and the wines are there also of heavy and oily, as often as to require the addition of water, which, however, is not added to the wine, but only to the brandy before rectification.

An inferior kind of brandy is made from the marc of grapes, or the residue of the grapes after the juice has been pressed out. This still retains enough of the grape-juice to be readily brought into fermentation, when properly arranged, and, therefore, to be capable of yielding afterwards a spirit by distillation. In Switzerland, it is thus performed: Wine-casks are filled with the fresh marc quite full, and pressed down by trampling, to make it lie close, and prevent it from moulding; the casks are then headed, and the dung-holes and joints are closed up with clay. In two or three days, fermentation begins, the marc heats, and when the first working has subsided, and it has got an agreeable vinous smell, (which happens in from two to four or five weeks,) it is fit for distillation. The alembic may be filled quite to the top with the fermented marc, and just water enough is added to wet it thoroughly. The fire should be very slack, and kept up very moderately in the process, otherwise, the marc, nearest to the bottom, will burn, and give a very unpleasant taste to the brandy. Thirty-two cubic feet of fermented marc will give about ten gallons of spirit. If not wanted immediately, the marc will keep without spoiling in the barrels, if well closed, for two, three, or even four months. This spirit should be rectified over ashes or lime-water to become very dry. 

M. Beaumé, in his experiments, found, however, that he could obtain a very good spirit from the marc, by a simple distillation, either by immersing the alembic in a water-bath, and thus regulating the heat, or by making a kind of wicker cradle within the alembic, raised an inch or two from its bottom, and letting the marc fall upon it, so as to be prevented from coming in contact with the bottom, where the heat is strongest, and adding water, as before, and distilling with a slow fire. By this contrivance, all the burnt flavour was avoided, and the spirit rose at first very pure and good.

Various improvements have been proposed, and partly adopted, in the construction of the alembics and distillatory apparatus, the chief of which, with other observations relating to the general art of preparing Distilled Spirits, will be described under that article. See also Wine and Alcohol.

Beaumé et Rozier, in Jour. de Phy. tom. xii et xvi. 
—Report to the H. of Commons on the Scotch Distilleries. —Chaptal, &c. For the laws relating to brandy; see Spirit.

Brandy-Cherry. —See Cherry.

Brandy-Pots. —In Geography, the name given to islands, in the river St. Lawrence, 46 leagues below Quebec.

BRANDYWINE, a township of America, in Chester county, Pennsylvania.

BRANDYWINE Creek, a creek of America, which falls into Chirilliana creek from the northward, at Wilmington, in the state of Delaware, about 25 miles from its N. and N. W. sources in Chester county, Pennsylvania. This creek is famous for a battle, fought on the 11th of September 1777, and terminating with considerable loss by the British troops. In consequence of this battle, Philadelphia was taken possession of by general Howe on the 26th.

BRANE, a river of South Wales, which runs into the Towy, near Llanidlovery, in the county of Carmarthen.

This is real, a river of South Wales, which runs into the Usk, 3 miles W. of Brecknock.

BRANFORD, a township of America, in the county of New Haven, and state of Connecticut, lying on the south side of a river of the same name, which runs into Long Island, found, to 10 miles E. of New Haven, and 40 S. of Hartford. It is considerable on account of its iron works.

BRANG, a town of Poland, in the palatinate of Volhynia; 44 miles S. W. of Lutsko.

BRANGE, a town of France, in the department of the Saone and Loire, and chief place of a canton, in the district of Louhans, half a league N. W. of Louhans.

BRANTZ, a town of Silesia, in the principality of Oppau; 4 miles S. E. of Jagerendorf.

BRANITZ, a town and district of Russie, in the government of Moscow, seated on the Moscva, between Moscow and Kolomna.

BRANK, in Botany, polygonum fagopyrum, buck-wheat.

BRANK. See Scolding Bridle.

BRANKER, or BRANCKER, THOMAS, in Biography, an eminent English mathematician, was born in Devonshire, in 1656, admitted butler of Exeter college, Oxford, took the degree of B. A. in 1655, and that of M. A. in 1658, and
and became a preacher. Upon the restoration, objecting to conformity to the Established church, he resigned his fellowship at Oxford in 1662, and retired to Cheltery; but changing his mind with respect to conformity, he was episcopally ordained, and was appointed minister of White- gate. By his attention to mathematics and chemistry, in the study of which he employed his intervals of leisure, he obtained the patronage of Lord Crewe, who gave him the rectory of Tilbury. Being afterwards appointed master of the well-endowed school at Macclesfield, he spent the remainder of his life in that place, and died there in 1766. His mathematical writings were "A Piece on the Doctrine of the Sphere," in Latin, published at Oxford in 1663; a translation of Rhonius's algebra, entitled "An Introduction to Algebra," 4to. Lond. 1668, in which he liberally acknowledges the assistance of Dr. Pell. He also corresponded on subjects of mathematics with Collins, and other eminent men. Hutton's Dict.

BRANKYRKA, in Geography, a town of Sweden, in the province of Svedenmanland.

BRANLE, Fr. a kind of dance, very gay, brought hither from France in the time of Charles II.

BRANLIN, in Ichthyology. See SAMLET.

BRANNE, in Geography, a town of France, in the department of the Gironde, and chief place of a canton, in the district of Libourne; 2 leagues S. of Libourne. The town contains 5,444, and the canton 10,726 inhabitants; the territory includes 155,5 kilometres, and 21 communes.

BRANNOKENIUM, in Ancient Geography, a town of the Or dovices, in Ptolemy's description of Britain, placed by Camden and Baxter at Worcestor, supposing that some transferee had committed a mistake in affixing it to the Or dovices, from which territory Worcestor is too remote. Mr. Horsey places it near Ludlow, which might belong to the Or dovices.

BRANNOVII, a people mentioned by Caesar, who were under the protection of the Ædui, and who furnished him with troops. They are placed in a small canton of Burgundy in France, called the "Brienois," to the west of Maconnois.

BRANNY, in Botany, furfuraceous, covered with branny scales; a term applied to the ripes, or stalks of some species of fungi.

BRANDONEUM, in Ancient Geography, one of the nine forts, subject to the command of the count of the Saxon shore in Britain; garrisoned by the equites Dalmatia, and seated on the Sinus Metaris; now Brancaster in Norfolk, on the wales.

BRANSEE, in Geography, a small islanth of Denmark, in the Little Belt; 5 miles W. N. W. from Aflens.

BRANSK, a town and district of Russia, in the government of Orj, situu on the Dafian. - Alto, a town of Poland, in the palatinate of Bielk, 16 miles W. of Bielk.

BRANeka, a town of Tranfylvania, seated on the Marith. N. lat. 46° 6'. E. long. 25° 17'.

BRANSON, a town of Switzer land, in the Valais, north of the Rhone, and about 2 miles N. E. of Martigny. N. lat. 46° 11'. E. long. 6° 57'.

BRANT, a river of North Wales, in the ile of Angle- sea, which runs into the Menai, about 3 miles S. from New- burgh.- Alto, a town of Germany, in the archbishopcy of Aquitania; 8 miles E. of Zvejt.

BRANTA, BRENTA, and BRENT-GOOSE, in Ornithology, synonymous names of Anas Bemicha, the common brown goose of the English.

BRANTA TERRIDA, is the name given by Scopoli to Anas terrida. Gmel.
ments in favour of that race, at Methone, Pylus, and Amphipolis.

The Brafinia were celebrated with sacrifices and games, at which none were allowed to contend but free-born Spartans. To be absent from these solemnities is said by some to have been hell criminal, and punished with fines. Meurf. Græc. Perial. Potter. Arch. Græc. li. cap. 26.

BRASIL, or BRAJZ, in Geography, an extensive and opulent country in South America, belonging to the Portuguese, and of such importance as to be almost essential to the existence of their monarchy. It derives its name from the wood which is so called, mentioned by Chaucer, and known many ages before his time. It is bounded on the north by the river of the AMAZONs and the northern Atlantic ocean, on the east by the southern Atlantic ocean, on the south by the mouth of the river La Plata, and on the west by a multitude of moraines, lakes, rivers, and mountains, which separate it from the dominions of the Spaniards; and extends from the frontiers of Dutch Guiana, N. lat. 3°, to Port St. Pedro, S. lat. 31°, including 35° of latitude, or 2100 geographical miles, and in breadth from Cape St. Roque, to the farthest Portuguese settlement on the river of Amazonas, called St. Paul de Omunagas, comprehending at least the number of 50 miles. Some have ascribed the first discovery of Brafit to Martin Behem, in 1481, (see Behem,) but this, however, has been more generally allowed to Pedro Alvarez Cabral, who, being entrusted with the command of a powerful fleet, designed by the king of Portugal not only for the purposes of trade, but also of conquest, set sail in 1500; and in order to avoid the coast of Africa, where he was likely to be retarded in his voyage by variable breezes or frequent calms, he stood out to sea, and kept so far to the west that he found himself, to his surprise, upon the shore of an unknown country, in the 10th degree beyond the line. He first thought that it was some island in the Atlantic ocean that had not been before observed; but proceeding along its coast for several days, he was led gradually to believe, that a country so extensive formed a part of some great continent. This country proved to be that called by its discoverer "St. Croix," but now known by the name of Brazil. Here he landed, and having conceived a high idea of the fertility of the soil, and the agreeableness of the climate, he took possession of it for the crown of Portugal, and dispatched a ship to Lisbon, with an account of that event, which appeared to be no less important than it was unexpected. The Portuguese, however, notwithstanding the flattering report of Cabral, entertained, for some time, no very favourable opinion of this country; because they found, after a survey of its harbours, bays, rivers, and coasts, that it afforded neither gold nor silver; and accordingly they sent thither none but condemned criminals and abandoned women. Two ships were annually sent from Portugal for this purpose, and they returned with parrots, and woods for the use of the dyers and cabinet-makers. In 1548, when the Jews were persecuted by the inquisition, they were plundered of their possessions and banished to Brazil. But receiving encouragement from some of their mercantile friends in different nations, with whom they had formerly been connected, they were enabled to procure sugar cane from the island of Madeira, and to establish sugar plantations. The court of Lisbon, perceiving that the mother-country might derive considerable advantage from this colony, although it furnished them neither gold nor silver, sent thither, in 1549, Thomas de Souza to regulate and superintend it. This governor, notwithstanding the talents which he possessed, found it very difficult to reduce those who had been accustomed to anarchy to due subordination, and to induce the natives, who were dispersed through the forests and plains, and who had no settled habitations, to associate with one another, and to submit to the yoke which the Portuguese seemed desirous of imposing upon them. A dissatisfaction ensued between both parties, which at length terminated in war; nor was the force that had accompanied Souza sufficient to bring it to a peaceful termination. This was in some measure effected by the establishment of a kind of central and rallying point for the colony at St. Salvador, which was built in 1549, on the bay of All-Saints, and which was the first Portuguese settlement in the country; but the object was chiefly accomplished by the address of the Jesuits, who, differing themselves among the Indians, and striving to engage their esteem and attachment, and thus to extend the influence of the Portuguese, and to induce, as well as to augment, the advantages which the mother country derived from this settlement. The Indians, instructed by the Jesuits and employed by them, distributed among the savage natives hatchets, knives, and looking-glasses with such effect, that they were induced to regard the Portuguese as an inexhaustible and humane people. The increasing prosperity of the colony became gradually known in Europe; and excited the envy of the French, Spaniards, and Dutch successively. The latter, however, were the principal enemies with whom the Portuguese had to contend in their new settlement. In 1624 the Dutch admiral Willekens was detached with a powerful squadron, and a considerable number of soldiers and marines for Brazil; and having cast anchor before St. Salvador, the capital of the country, and the residence of the Portuguese vicerey, he landed his forces, expelled the inhabitants, and took possession of the town. After having plundered it of its wealth, he appointed colonel Van Dort as governor, and left with him a strong garrison for his support. His first act was the publication of a manifesto, in the name of the States, allowing liberty of conscience to all who were willing to take an oath of fidelity to the republic of the United Provinces. When an account of the successes of Willekens arrived in Holland, it was received with great satisfaction, and it was concluded, without hesitation, that the entire conquest of Brazil would ensue. Upon the return of Willekens to Europe, the Spaniards were prepared with a squadron of 56 sail, under Frederic de Toledo, which was destined to drive the Hollanders out of Brazil. The fleet was manned with 12,000 soldiers and marines, who, immediately upon their arrival, laid siege to St. Salvador, which, after an obstinate resistance and the loss of its governor Van Dort, was obliged to capitulate. When the affairs of the Dutch at home assumed a more favourable aspect, they dispatched admiral Lombe, in 1639, with a strong armament to the South American sea, and he arrived on the coast of Pernambuco, or Pernambuco, one of the most considerable and best fortified provinces in Brazil, and, after several obstinate engagements, succeeded in reducing it. He left behind him troops which reduced, in the years 1635, 1634, and 1649, the three provinces of Tembraca, Paraiba, and Rio Grande. These four provinces furnished annually a large quantity of sugar, wood for dyeing, and other commodities, which supplied the Hollanders with such an accession of wealth, that they determined to conquer the whole country; and entered Maurice of Nassau with the conduct of the enterprise. After resisting many well-conducted efforts for self-defence on the part of Almroque, Bajoula, Lewis Roca de Borgia, and Cameron of Brazil, idolized by his people, and himself devoted to the interest of the Portuguese, the Dutch took possession of the provinces of Santa, Sergippe, and the greatest part of that of Bahia. Having thus
thus acquired seven out of the fourteen provinces into which Brazil was divided, they expected soon to conquer the other seven, when Portugal recovered its independence by the elevation of the family of Braganza to the throne. The Dutch, then, as enemies to the Spaniards, became friends to the Portuguese, who were likewise the enemies of the Spaniards. They agreed, therefore, to leave that part of Brazil which they had not conquered to the king of Portugal, who also agreed to leave that part which they had conquered, as a matter not worth disputing about with such good allies. But the Dutch government soon began to oppress the Portuguese colonists, who, instead of amusing themselves with complaints, took up arms against their new masters, and by their own valor and resolution, with the connivance, indeed, but without any avowed affluence from the mother-country, drove them out of Brazil. The Dutch, therefore, finding it impossible to keep any part of the country to themselves, were contented that it should be restored to the crown of Portugal; to which it has since belonged, giving title to the presumptive heir.

Geographers are not agreed as to the number of provinces or captainships into which Brazil is divided. Some have distributed it into three grand divisions: 1. The northern, containing eight provinces, viz. Para, Maranha, Siiara, Pata
gues, Rio Grande, Paraiba, Temara, and Pernambuco. 2. The middle division, comprehending five captainships, viz. Seregippe, Bahia, on the bay of All-Saints, Itanos, Porto Seguro, and Spiritu Santo. 3. The southern division, including three captainships, viz. Rio Janeiro, St. Vincent, and Del Rey. Others reckon fifteen provinces, viz. Para, Maranha, Siiara, Rio Grande, Paraiba, Temara, Pernambuco, Seregippe, Bahia, Porto Seguro, Spiritu Santo, Rio de Janeiro, Angra, St. Vincent, and Del Rey. By others again the whole of the Brazils is divided into eight independent governments, beside that of Rio de Janeiro, of which the governor retains the same name only of viceroy of the Brazils. The others are those of Para or Amazonas, Maranha, Pernambuco, Bahia, Santo Paulo, Matto Grosso, Minas Geraes, and Minas Goyazes. The red areiefs granted to some of the nobility, in recompence of their extraordinary services, who do little more than acknowledge the sovereignty of the king of Portugal, and his representative the viceroy of Peru, who acts both in a civil and military capacity, and maintains the state and grandeur of a foreign prince in the city of St. Salva
dore. Formerly a Bahia dos Todos os Santos, or St. Sal
dore, was the principal seat of government and chief mart for commerce in the Brazils; but the discovery and improvement of the gold and diamond mines, within about 100 leagues of Rio de Janeiro, and communicating immediately with it, gave a decided superiority to the latter. On the coast are three small islands, where ships touch for provisions on their voyage to the South Seas; viz. Fer
dando, St. Barbaro, and St. Catherine's. The bays, harbours, and rivers, are the harbours of Pernambuco. All Saints, Porto Seguro, the port and harbour of Rio de Ja
eiro, the port of St. Vincent, the harbour of St. Gabriel, and the port of St. Salvador, on the north shore of the river La Plata. "All the provinces of Brazil," says Sir George Staunton (Embassy to China, vol. i. p. 180.) "are growing fast into opulence and importance. They manufacture of late several of the most necessary articles for their own consumption; and their produce was so considerale, that the balance of trade became to be already in their favour; and remittances of bullion were made to them from Europe, in return for the overplus of their exports bey
don their imports." It appears, from the account of this writer, that the Portuguese settles have manifested repeated symptoms of revolt from the parent country. It appears also, that during the administration of the marquis de Pombal, so long prime minister in Portugal, these colonies were delivered from some monopolies and restraints, which had contributed to depress them; and, moreover, that the project of removing the seat of the Portuguese government to the Brazils was once, in fact, seriously in contemplation with this minister, when that country was invaded by the Spanish forces in 1761, and that calculations were made, and precau
tions taken, as to the number of vessels necessary to transport across the Atlantic the royal family, with the principal officers of the court, and their several attendants. But the project vanished with the danger that occasioned it; and the Brazils continued to be considered as a colony, de
tined, exclusively, to enrich the parent state.

The climate of Brazil has been described by two eminent naturalists, Piso and Margrave, who observed it with philosopohical accuracy, as temperate and mild, when compared with that of Africa. This they chiefly ascribe to the re
terminating wind, which blows continually from the sea. The air is not only cool, but chilly through the night, in
much that the natives kindle fires every evening in their huts. Niuhoff, who resided long in Brazil, confirms their description. The rivers in this country annually overflow their banks, and, like the Nile, leave a foot of slime upon the lands; so that the soil, especially in the vicinity of the rivers, is extremely rich. The northern provinces are subject to heavy rains and storms; but those of the south are more temperate and fertile. Among the vegetable productions of this country, we may reckon Indian corn, wheat, rice, manioc, sugar cane, coffee, cocoa or choc
date, indigo, pepper, cactus, on which is bred the insect fulminating cochineal, and the noted Brazilian tobacco. The red or Brazil wood, imported into this country, for the purpose of dyeing, is the property of the crown. To the chieft of succulent plants, we may refer those that are common to all the tropical regions of America, such as, besides the co
coa and chocolate nut, the plantain, the banana, palm, the yam, potatoe, caaava, together with many species of me
tons and gourds. The principal fruits are the pine apple, the mango, and the tamarind. The warm aromatic plants found here in a truly indigenous state, and much used by the inhabitants as condiments to their food, or as the basis of various drinks, are the orange and limes, the grapes, ginger, the turmeric, several species of pepper, American coffee, capicul or Guinea pepper, and the wild cinnamon, (laurna canella.) Several medicinal plants of high estimation grow here spontaneously, and in great abundance, such as the contrayerva, the Indian pink, the mchococan, the jalap, the amyris which yields the gum elemi, and the gui
cum. Besides the Brazil wood, this country furnishes for ornamenal use, or for the purpose of dyeing, logwood, suf
tie, mahogany, ebony, rose wood, fattin wood, and many others. Among its ornamental plants are the Brasilian myrt, the scarlet fuscia, and the amaryliss formosiflora. Brazil abounds with horned cattle, which are hunted merely for their hides, of which 20,000, it is said, are annually sent to Europe. These cattle are taken and killed, more for the sake of their hides and tallow than their flesh; though great quantities of the latter are applied to the use of such ships as sail from Pernambuco, Bahia, Todos os Santos, and Rio de Janeiro, to Guinea. The places which are chiefly frequented for procuring these cattle, are Rio Grande and Rio Paraiba, lying to the northward of Per
dambuco; and they are inhabited by Indians, called Ta
puyes; many of whom send annually large droves of cattle, through...
through the Tupique nation, which extends from the source of Rio St. Francisco in S. lat. 8° to that of Rio Deoce in S. lat. 20°, to Bahia Tudos ou Santos, and Rio de Janeiro, where they fell for 4 or 4 crucibles of a piece, (a crucible being in value about 35. 8d. sterling,) or exchange them for knives, hatchets, &c. or coats base, for a yard of which they will give a good baht. Among its animals, we may reckon several species of the armadillo or dafipus, the cat or fzs kind, the otter or lutra, the weal or mufels, the eposium or dimelphis, the porcupine or hy-}

trix, the cavy, the squirrel or feunus, the hare or le-

pus, the mufk or melculus, the deer or cervus, the hog or tus, &c. Among the fishes found on its coasts, and

in its rivers, are some species of the cachalot or phylæter, and the gorgias, bufet with spikes like a hedge-hog, &c.

Many of its birds are curious and beautiful, particularly some of the parrot or pratincaus kind, the toucan or ram-

phallos, the motmot or momotus, the palamedea or am-

ninga, with a thong nail or spur at each flexure of its

wings, and a horn about 6 inches long growing from its

forehead. The size and vivid line of the flowers in the

forests, and the gaudy plumage of the birds, are very striking.

Brazil breeds a variety of serpents and venomous reptiles;

among which are the Indian salamander, an insect with 4

legs, whose sting is said to be fatal; the ibiboboca, a spe-

cies of serpent, about 7 yards long and half a yard in cir-

cumference; the rattle snake of enormous size; and the

hobby, or roe-buck snake, which is said to extend to

the length of between 20 and 30 feet, and to be

2 or 3 yards in circumference, and which is capable, as

some authors have reported, of swallowing a roe-buck

whole. The hissing noise of this large and formidable

snake fts the bearer on his guard, and they seldom, with-

out provocation, advance to an attack.

The gold and diamond mines of Brazil were first opened in

1681; and our information concerning them is imperfect.
The former are situated in the mountains, from which flow various
streams north and south, which discharge themselves on one
side into the river Tocatint, and on the other into the Parana;
but there are mines of gold, as far inland as the river Cuy-
aba, which runs into the Paraguay, and even near the river
Yenas. Others are near the river Paise and Saguitinhon-
ha, the Riacho-Fundo, and Guarapara in St. Paul's.

One fifth of the gold is exacted by government, and the people
of Rio are prohibited from working up the gold of

their own mines, and the tools and instruments used for that

purpose are seized and confiscated.

The diamond mines are near the little river of Milho Verde,

not far from Villa Nova de Principe, in the province of Serro
de Frio, S. lat. 17° according to La Cruz, and W. long.
about 44°. These diamonds of Brazil are not of a fine water
as those of Hindoostan; being of a brownish and obscure hue;
and, supposing the weights to be equal, they are sold 10 per
cent. cheaper than those of the East. One of the largest dia-

monds that has been known, was sent from Brazil to the

king of Portugal. It weighed 1680 carats, or 128 ounces;
and it has been valued at 576,787,500. Some beautiful lapidari-

aries, however, have suggested, that this supposed dia-

mond is only a topaz. All the diamond mines belong ex-

clusively to the crown. The mines of gold and silver are said
to have yielded above five millions sterling annually; those of diamonds have been usually farmed at about 30,000l.
yearly, which is thought to be scarcely a fifth of their ac-

tual produce.

The trade of Brazil, notwithstanding the restraints

and impositions to which it is subject, is very extensive,
and continually increasing. This commerce is of such

importance to the parent state, that it could not sub-

tain without it. The confine of people who resort to the

Brasils from Portugal, and from other countries, has much

augmented the imports of gold, and, what is much more

important to Europe in general, the exports of the ma-

nufactures of this hemisphere. Great Britain supplies Bra-

sil with a variety of woolen manufactures; such as fine

broad medley cloths, fine Spanish cloths, scarlet and black

cloths, serges, duros, druggets, fagathies, shelleys, cambl-

ets, and Norwich stuffs, black Colchester bays, fays, and

long ells, hats, stockings, and gloves. Holland, Ger-

many, and France, have chiefly exported thither, fine hol-

lands, bone-lace, and fine thread; silk manufactures, lead,
black tin, and others articles are also sent from different

countries. England likewise trades with Portugal for the

use of the Brasils, in copper and brass, wrought and un-

wrought pewter, and all kinds of hard ware. By this ex-

tent of its trade, Portugal, instead of 12 ships usually
employed in the commerce with Brazil, employs at least 100

fail of large vessels, which are perpetually palling from one
country to the other. Brazil also carries on a considerable

trade with Africa in slaves, and thus Portugal occupies a

great number of ships. All these ships, employed in dif-

ferent branches of trade, go and return at appointed sea-
fons, under the direction of government, and under-con-

voy of a certain number of men of war; nor can a single ship

clear out or depart, without the fleet, except by a special

licence from the king, which is seldom granted.

But these restrictions, however, as well as the infatuated policy

of the country, it fails to derive that advantage from this extensive

commerce, which it is adapted to afford. The fleets fail in the

following order, and at the following stated periods: that de-

tined for Rio de Janeiro sets fail in January; the fleet to Ba-

lia, in February; and the third fleet to Pernambuco, in March.

The duties which the agents of Portugal levv upon the

importation of goods from Lisbon and Oporto at Rio de

Janeiro are 12 per cent., upon the value of each article.
The chief duties paid at Lisbon, on the commodities of the

Brasils, are as follow: upon gold, 1 per cent.; coffee, 8

per cent.; sugars, rice, and skins, 10 per cent.; indigo, 12

per cent.; planks, 17 per cent.; and rum, 4 dollars for
every pipe of 180 gallons. All large ship timber, as well as
the Brazil wood, is claimed as the property of the
crown. Yet, notwithstanding all monopolies, prohibitions,
and heavy taxes, the whole revenue from the Brasils is paid
not to be equal to a million sterling, of which the expence of
their government consumes about a third part. The
taxes are severely felt, especially in the interior provinces,
where the carriage and transit duties increase the price of
every article so enormously, that a bottle of port wine, for
instance, costs 15s. sterling to the consumer. The hard-
ships thus imposed by the mother-country, excite a spirit
of general dissatisfaction and revolt. Hence it happens,
that officers, both civil and military, who are natives of
Portugal, and also the ecclesiastics, soon change their ori-
inal affection for the parent state, into an attachment to
that where they are likely to spend their days, and are
sometimes tempted to sacrifice to their own interest, that of
their employers. It is observable, that whatever difficulties
the Portuguese may be likely to encounter, in securing
their American possessions against internal enemies, they
seem to have taken no mean precautions against any foreign
attack. See Rio de Janeiro.

The population of this extensive country has not been ac-
curately ascertained. Some have reckoned the Portuguese
and their descendants at half a million, and the natives at 3
or 4 millions. According to Sir George Staunton's ac-
count,
count, (Embassy to China, vol. i. p. 172.) all the whites are computed at about 200,000, and the number of slaves, born in Africa, or defended from such, is estimated at 600,000. Probably, the natives do not exceed one million. Labour is chiefly performed by slaves, of whom about 20,000 are annually imported, and of these, about 5,000 are usually sold every year at Rio. In the harbour of Rio, at a place called Val Longo, are warehouses for the reception and preparation for sale of the slaves, that are imported thither, chiefly from Angola and Benguela. This spot is appropriated to the purpose of cleansing, fattening, rendering flaky and saleable, and concealing the defects of this class of beings, who, it is said, seem little subject of the humiliation of their condition. The average price on importation is about 28l. sterling each. Before they are shipped from Africa, a duty of 10,000 reis a head is paid to the queen of Portugal's agent there; the whole amounting to about 60,000 a-year, which goes into her private purse, and is not considered as part of the public revenue. The plantation slaves in the Brails are allowed two days out of seven for their own purposes, which is a greater interval than that which is granted in the West India islands. They are supersedes for being addicted to stealing and lying; their disposition seems to be gay and active, and easily reconciled to their situation. They seldom recur to intoxication as a relief against any feelings of distress; and they are fond of music and dancing. Many of these slaves are the property of the crown, and of those, about 10,000 are employed in the diamond mines; several of them are attached to convents. The Benedictines alone had 1000 upon their plantations; some of these fathers observed, that the passing from the connection between the blacks and whites were generally endowed with much intelligence and ingenuity. Some of them they bred up carefully, and instructed with such success, that they thought themselves under no necessity of sending perons to the universities of Portugal for a liberal education: one of this mixed breed, as they boasted, having been promoted to a learned professorship at Lisbon.

The European settlers, in all classes of society, are much addicted to gaiety and pleasure; and though at Rio, in particular, there are three convents for men, and two for women, the austerity and self-denial intended by their original institution is little practised. Although the conquest of the country was at first profusely undertaken for converting the natives to Christianity, and ample endowments have been granted for this purpose, yet none of the friars now engage in the troublesome, unsafe, and, perhaps, hopeless enterprise. No inquisition or tribunal of the holy of office has been established in the Brails. Nevertheless, the ceremonies of religion are regularly observed, and even multiply at Rio. During the day-time, bells, and sometimmes fire-rockets announce, at every hour, the performance of some solemnity in the churches; after fun, the streets are crowded with processions; and at every corner is stuck up, in a glass-case, the image of the Virgin Mary, which receives regular homage from passenges. Men of the lower classes generally wear cloaks when they walk abroad; and those of the middle and higher ranks never appear without swords. The ladies wear their hair hanging down in tresses, tied with ribbons, and adorned with flowers; their heads being uncovered. In their visits to the churches, both at matins and vepers, they are very regular; at other times, they are generally seated at their balconies or windows. Many of them have fine dark eyes, and animated countenances. In the evenings, they amuse themseives with playing on some kind of musical instrument, chiefly the harpsi-

chord or guitar. Among the more innocent pleasures of both classes, are operas, plays, and masquerades, and assemblies in a public garden. In Brasil, the convents and monasteries are numerous, but the manufactories more rare.

The original inhabitants of the Brails have been found incapable of being reduced to a state of slavery, or even to the domestic habits of civil society. Children of these natives have been taken into Portuguese families, and pains have been taken, from motives of curiosity, or of humanity, to domesticate and instruct them; but their nature, it is said, is so intractable, that they constantly return to their original habits of savage life, without retaining any of the principles which might restrain their passions or caprices. These people, though poor, seldom offer themselves for hire, and are as seldom coveted by the Portuguese, except for rowing their boats, in which practice they are remarkably expert. In their persons they are generally somewhat under the middle size, muscular, stout, and active, with light brown complexion, black, strong, unruly hair, with very little beard, and large dark eyes, which discover no mark of imbecility of intellect; their aspect, upon the whole, indicates no trace of meanness or vulgarity; but their looks and expressions are intelligent and dignified. Their chief pleasure consists in hunting and fishing, and whilst they cherish an hereditary and implacable antipathy to the invaders of their country, they withdraw from the considerate settlements of the Portuguese, and manage individuals, without remorse, wherever they are found dispersed and unprotected. The coast between Rio and Bahia is still very much inhabited and frequented by them; and this prevents any regular communication by land, between these two places. The language of the indigenous Brails has not been investigated by the Portuguese; but that which is most widely diffused is the Guarani, or that of the Guaranees. They have no books in their own language.

As to the government of the Brails, each province has its respective chief, under the viceroy, but they receive their instructions from the court at Lisbon. They are annually appointed for three years, but continued at pleasure. Each district has a particular judge, from whose sentences an appeal lies to the superior tribunals of Rio Janeiro or Lisbon.

Brasil, or Brazil-Wood. Fernambouc Wood.—Sapum Wood. The tree which bears this important wood is the Cæsalpinia Crista. Linn. This wood is very hard, takes a high polish, and is so heavy as to sink in water. When chewed, it has a sweetish taste. It resembles in appearance red faduera; but is distinguished from it readily, by giving out its colour to water, which faders-wood does not.

Brazil wood is valuable for the beautiful orange and red colour in various shades which it furnishes to the dyer, and its analysis is of some importance. Boiled in water, it forms a fine decoction. The refidue appears black, but alkalies will fll extract much colour from it. Spirit of wine and ammonia also readily extract a colour which is of a deeper red than the preceding.

When sulphuric acid is added slowly to a fresh watery decoction of braiil wood, a small quantity of red precipitate falls down, and the clear liquor now assumes a yellow. Nitric acid produces a similar change, but the liquor is more of an orange. Molt of the other acids also produce a red precipitate, and leave the liquor of various shades of yellow and orange. The alkalies restore the colour of the liquor, but with a tendency to cimmon and violet-brown.

The action of the solutions of tin and of alum is the most important. Alum gives a fine red precipitate in great abundance,
BRASILIANUS, a species of Cerambyx, the thorax of which is crimson and ferruginous: wing-cases pointed, telfaceous, with three little glabrous yellow lines. Fabric. Inhabit Brazil.

BRASILIANUS, a species of Scarabeus, found in the dung of cattle in Brazil. The colour is deep black: shield of the head emarginate: wing-cases fringed.

BRASILIUS, in Ornithology, a species of Caprimulgus, of a blackish colour, varied with small white spots, and yellow: beneath, varied with black and white. This bird inhabits Brazil. The wings and tail are equal: area of the eyes yellow: bill and eyes black: legs white. Brazilian goat-sticker of Latham.


So. 1. B. birgatum, a shrub, from eight to ten feet high. Stem straight, near two inches in diameter, with a brownish grey bark, finely wrinkled. Branches alternate, growing near the summit of the stem. Leaves in tufts, near a foot and half long, pinnate with an odd one, on a pubescent reddish petiole. Folioles from fifteen to nineteen, about three inches long, on short petioles, oval-pointed, entire, or slightly angular, smooth, green, and shining above, villous at their edges. Flowers in terminal, branched racemes, very small, of a dull red colour. It is a native of St. Domingo, Jamaica, and Guiana, and, like the true Brazil (Catalpina), is used for dyeing red, but does not produce so fine a colour. Aubert relates, that its leaves bruised when fresh communicate to cotton a green colour, which soon becomes violet. It is said by Phimier, that its stem, if wounded, yields a caustic juice, which fixes an almost indelible spot upon whatever part of the human body it happens to fall. Described by L. Marcel from a dried specimen without flowers. 2. B. glabrum, differs from the preceding in being smaller, less proper to be used in dyeing, and in having its leaves perfectly smooth. It is a native of St. Domingo. A single female plant has been cultivated in the royal garden at Paris, which flowered in the beginning of November.

BRASIENSIIS, in Entomology, a species of Cicada, (Membracis Fabric.) The thorax of this kind has two horns, is spotted with white, and is produced behind beyond the length of the abdomen. Inhabits Brazil.

BRASIENSIIS, a fort of Gryllus (Acheta), that inhabits Brazil. Its general color is fuscous: wings tailed and longer than the elytra; back pale; tail ascending, and the length of the body. Fabric. &c.

BRASIENSIIS, in ornithology, a species of Falco, with yellow feet; body rufous, varitd with white and yellow dots; tail variegated with white and fuscous. Gmel.

Willingby and Latham describe this under the name of the Brazilian kite, being found in Brazil, where, we are informed, it is highly destructive to the domesticated poultry. It is as large as our common kite. The beak and claws are long, very sharp, and black; eyes with the irides yellowish. Buffon has described it by the name of caracara. The same bird is cirrus brevilatus of Brisson.

BRASIENSIIS, a fort of Psittacus, or parrot, that is found in Brazil. It is of the fize of a pigeon, of a green colour, with the face red, the temples blue, and the orbits of the eyes cincereous. Gmel. Whether it be distinct from the lesser green parrot of Edwards (Psittacus aureoannalis of Latham),

dance, inclining to crimson, and subduing slowly. The supernatant liquor also retains the original colour of the liquor, but a further crimson precipitate is yielded on adding alkali enough to decompose the album in solution. In this way, a fine crimson Lake and Carmine are sometimes prepared, which therefore confound of alumine, united intimately with the natural colour of the wood, a little heightened.

Nitro-muriatic acid, added to the decoction, separates the whole of the colouring matter, which falls down in great abundance, united with the oxvd of tin, and the liquor remains colourless. Even when the decoction has first been made yellow by an acid, as above-mentioned, the solution first reduces the original colour, and then precipitates it, as with the simple decocation.

The solutions of iron blacken brafal wood, flowing the presence of gallic acid.

Many of the other metallic solutions act similarly to that of tin, forming a precipitate of the metallic oxvd with the colouring matter.

The colour of Brazil wood, though very beautiful, is fugitive, and has the additional disadvantage of being readily darkened and rendered purple by alkalis, and therefore by soap. The colour is made permanent by acids, but is then changed to the shade of yellow; but it is peculiarly distinguished from kermes and madder, by having the original crimson restored by solutions of tin, after being altered by acids. Accordingly, the best practical dyers have employed acids and tin in their attempts to fix this beautiful colour. For further particulars as to its use, see the article Dyeing.

BRASILIA, in Ornithology, a species of Tanagra, of a scarlet colour, having the wings and tail black. Gmel. Inhabits Brazil, and other parts of South America. The specific names under which this beautiful bird is described by different authors are numerous; it is called Cardinal by Buffon, Cardinalis, Brisson. Merula brasilica, &c. Ald. Tye piranga, Maregr. Chiloth, Hier. Mex, &c. Latham names it the Brazilian Tanager. Its size is that of the common sparrow. It is conjectured, that Cardinalis nivosus, and Cardinalis torquatus of Drifton, are varieties of the first-mentioned species.

BRASILIANA, in Conchology, a species of Venus, that inhabits the shores of Brazil. The shell is lenticular, of a yellowish brown colour, with thin transverse dilatate frize; anterior depression, broad and bluish; posterior one of the same colour, and heart-shaped. Bonn.

BRASILIANA, in Ornithology, a species of Strix, the Brazilian owl of Latham. The body above is pale and ferruginous, brown spotted with white: beneath white, with ferruginous brown spots. Gmel. This is of the size of a thrush: bill, irides, and the feet (which are short) together with the toes, yellowish. Called by Drifton Ato abrassinis.

BRASILIANA, a species of Procellaria, the Brazilian petrel of Latham, Buffon de Breuil of Buffon; and majusc of Ray. The colour is blackish: throat yellow.

BRASILIANA, a species of Certhia, described by Latham under the name of the black and violet creeper. The colour is black, with the crown of the head golden green: rump, chin and throat, violet: breast purple, inclining to chessnut. Gmel. &c. Length of this bird 5½ inches. This is Le Guitt-guit noir et violet, of Buffon. Inhabit Brazil.

BRASILIANORUM, in Entomology, a species of Apis, that inhabits America. This kind is hairy, and bluish black: thighs at the base black. Fabric. Obs. The beak is cunea, or rather subulate: eyes black: antennae above fuscescent, beneath telfaceous: jaws black, and hidodentated: thighs telfaceous, glabrous, and compressed: shanks, and soles of the feet, with telfaceous pile.
BRASILISI, a species of Alcedo, the plumage of which is variegated with rufous, chestnut,fuscous, and white; beneath white; greater quill feathers and tail rufous, with transverse spots. Gmel.

This bird is of the size of the common European king’s fisher: the bill and eyes are black; band across the eyes, with the legs and claws, brown. Buffon calls it gip-gipgip. It is idios Brasilisius of Brifion; and the Brazilian king’s fisher of English writers.

BRASILISI, a species of Merops, of a fine red colour, variegated above with fuscous and black; wings and tail pale blue. Gmel. &c.

This is the Brazilian bee-eater of Latham; merops rouge et bleu of Buffon; opisiler Brasilisius of Brifion; and pega Brasilisius of Seba. The length of this bird is nine inches. As the same implies, it is an inhabitant of Brazil.

BRASILISI, a species of Anas, called by English writers the mareca duck. The color of its plumage is fuscous; beneath chestnut and glossy, between the eyes and back is a yellowish or ochraceous spot; chin white; tail wedge-shaped and black. This is a native of Brazil.

BRASILISI, a species of Ardea, with a smooth head; body blackish, dotted with yellow; quill and tail feathers, with the bill and legs, blackish. Gmel. Briff.

This is a bittern of large size, measuring two feet eight inches. Brown, in his Natural History of Jamaica, calls it the chucking hen. It is named foco by Maregraave: by Buffon, ombre des bois. Inhabitats Brazil and South America in general.

BRASILISI, a species of Emberiza, described specifically by Gmelin, as having the crown, collar, and body beneath yellow; back, wings, and tail greenish, variegated with fuscous and yellow. Inhabitats Brazil; its size that of the common (parrow). Latham names it the Brazilian hunting. Ray has it under the title of girum becogata. It is le girungata and brouant du Broyel of Buffon.

BRASILISI, a species of Turdus, of a black colour, beneath rufily yellowish; rump ferruginous; tail somewhat wedged, and having the outer feathers totally white, and the ruff white only at the tips. Gmel. Of. Across the wings is a white stripe; legs brown.

This is the yellow-bellied thrush of Latham.

BRASILISI, a species of Tanagra, of a small size, being about six inches in length, that is found in Brazil. The general colour is black, beneath white; throat and rump blue; face and breast black. Gmel. Of. The beak is blackish; head blueish. Called by Latham turpinje tangur. Maregraave has it under the name of girur gira: and Buffon, thole of turpin and tangure bleu du Broyel.

BRASILISI, in Zoology, a species of Rana, or toad of a yellowish ash colour, with waved red spots; beneath glabrous. Linn. Inhabits Brazil.

BRASILISI, in Geography, a city of Lithuania, in the palatinate of Wilna, on the side of a lake, which communicates with the Dvina: 76 miles N.N.E. of Wilna. N. lat. 55° 45', E. long. 22° 22'.

BRASMA, in the Medical Writings of the Ancients, a name given by Dioscorides and others to a light, empty, and good for nothing kind of black pepper. This was no peculiar species of pepper, but, as John Bauhine has well observed, it was the same with the pepper we now frequently meet with, which has decayed upon the plant. Dioec. Lib. ii. cap. 128.

Gg cold
cold water, which divides it into very small rounded shot-like fragments. Powdered charcoal is put over all, and the crucibles are covered and luted up. The brafs furnace has the form of the frustum of a hollow cone, or a cone with the base downwards, and the apex cut off horizontally. At the bottom of the furnace is a circular grate, or perforated iron plate, coated with clay and horse-dung, to defend it from the action of the fire. The crucibles stand upon the circular plate, forming a circular row with one in the middle. The fuel, which in England is coal, is thrown round the crucibles, and is thrown into the furnace at the upper part of it, or the truncated apex of the cone. A perforated cover, made of bricks or clay, and kept together by iron bars, is fitted to this opening. This cover serves as a regilier to regulate the heat; so that when it is to be increased, the cover is to be partly or entirely removed, and a free draight admitted to the external air, which passes along an underground vault to the ah-hole, through the holes in the circular grate between the crucibles, and through the upper mouth, along with the smoke and flame, into an area, where the workmen stand, which is covered by a large dome with a chimney to conduct the smoke out of doors. To diminish the heat, the regilier cover is put on the mouth of the furnace, leaving thereby no other exit for the smoke and flame than the holes of the cover. The time requisite for heating the crucibles varies considerably in different works, being determined chiefly by the nature of the calamine or other ore of zine employed, and also by the size of the crucibles. In the great way, at least ten or twelve hours are required. At Holywell about twenty hours are employed.

During the process, and especially towards the latter end, part of the reduced zine which escapes, being absorbed by the copper, finds its way in vapour thorough the crucible lids, and burns around them with the beautiful blue flame and white smoke peculiar to this volatile metal.

The heat required for brafs-making is somewhat less than what is necessary to melt copper, for brafs is more fusible than copper, and the zinc is able to penetrate copper when kept at a full red heat. When the brafs is judged to be made, the heat is increased to fuse the whole down into one mass at the bottom, and the crucibles are then removed, and the melted brafs poured out into moulds. At Holywell, fix crucibles are used to one furnace; and the quantity of brafs procured from them all is sufficient to fill one of them. This makes a single large brafs plate, which is manufactured in the same way as copper plate. Or, more accurately, from forty pounds of copper and sixty pounds of calamine, about sixty pounds of brafs are obtained, besides that a considerable quantity of zinc burns off in the process above-mentioned.

The above is the usual process of making brafs in most parts of England; and is essentially the same wherever this alloy is manufactured, but with some variation as to the choice of ingredients, their proportions, the time of fusion, and other smaller circumstances. In Gollari in Saxony, instead of a native calamine, the calamine, or sublimed oxd of zinc is used, which is collected in a particular part of the chimneys of the reverberatory furnaces, in which the lead ores and blastes are roasted. The proportions of the ingredients also vary considerably. According to Swedenborg, they are, in Gollari, 30 parts of copper, 40 to 45 of calamine, and twice the volume of charcoal; in many of the manufactories in France, 35 of copper, 35 of calamine and 20 to 25 of charcoal; in Sweden, 30 of copper, 20 to 30 of old brafs, and 40 of calamine, with charcoal sufficient; or 40 of copper, 30 of old brafs, and 50 of calamine; in this country, generally about 40 of copper, and 60 of calamine. The product of brafs varies also; but it seems to be in few places so great as in some of the works of England, where, as already mentioned, 40 pounds of copper increase to 60 pounds of brafs. This superior quantity is ascribed to the kindling to which the copper is previously reduced by pouring it melted into water, which, it seems, is not always practiced elsewhere, and probably too to the goodness of the calamine.

At Stolberg, near Aix la Chapelle, where brafs is made to a very great extent, the furnaces are cylindrical, and each contains eight crucibles arranged in two tiers of four each. The crucibles are fifteen inches high, twelve inches deep, and eight or nine wide. The proportions are 40 pounds of copper, 65 of calamine, and double its volume of charcoal. After the fire has been kept up for twelve hours, a workman takes off with an iron trowel all the fume and charcoal which swim upon the liquid, and when cooled form, a mass called arkel. This, examined by a glafs, is found to consist of calamine and copper particles cohering together, but not completely united. The brafs resulting from this first process is coarse, brittle, and unequal in texture, and requires a second fusion, before it is fit to be wrought. For this purpose the same crucibles are again employed, and are filled, fill with three handfuls of the mixture of calamine and charcoal, over which are put two or three pounds of the impure brafs broken in pieces, then more calamine and charcoal, with a piece of the arkel, and over all the calamine and charcoal powder. They are then heated strongly for two hours, after which the brafs is fit to be cast into plates.

A single fusion, where the fire is kept up long enough, and the materials are good, is certainly sufficient to make good malleable brafs; but it is probable, that the finest brafs undergo a second operation with fresh calamine and charcoal. Some secrecy is, however, observed by those individuals who have the reputation of making the very finest article. In the laboratory, by way of experiment, brafs may be made in a much shorter time by using the same materials, that is to say, copper-shot buried in a mixture of calamine and charcoal, putting the crucible in a wind furnace, and heating slowly for half an hour, till the zinc begins to burn off in blue flame round the edge of the crucible, and then raising the fire, and heating briskly for an hour longer. This process of cementation of copper is also shown very neatly by a somewhat different management; as given by Cramer. Put the mixture of calamine and charcoal into a crucible; cover it with a thin layer of clay, over which, when dry, lay a thin plate of copper, and cover the whole with fine charcoal powder, and a luted cover to the crucible. Apply heat gradually, and the vapour of the reduced zinc will rise through the floor of clay, will penetrate the red-hot copper above it, and convert it gradually into brafs, which, at the end of the operation, will be found lying melted upon the stratum of clay; and the increase of weight, which the copper will be found thus to have gained, will afford a good practical test of the goodness of the calamine, and its fitness for brafs-making in the great way.

Brafs is wrought into plates by casting and laminating. At Stolberg the plates are first cast into a mould formed of two blocks of hard granite five feet long, three and a half broad, and eight inches thick. These are placed one above the other, and the upper one is raised by a pulley, and smeared with cow-dung previous to casting. To give the plate the requisite thickness, hoops of iron of different dimensions are adapted to the under stone, so as to confine the melted metal, and regulate its thickness. The stones

are
are gently inclined before the metal is run into them. Their plates are afterwards laminated and manufactured in a thousand different ways.

The most important properties of brass, compared with copper, are the following: its colour is much brighter, and more approaching to gold; it is more fusible than copper, as is seen from the circumstance, that less than a copper-melting heat is sufficient for the making of brass; it is less subject to rust, and to be acted on by the vail variety of substances which corrode copper; and lastly, it is equally malleable when cold, and more extensile than either copper or iron; and hence peculiarly fitted to be made into wire. Brass, however, is only malleable when cold. By hammering, brass is found to become magnetic, perhaps only from the iron of the particles hammer which may have been broken into its surface; but this makes it necessary to use the hammered brass about compass-needles, and similar magnetic apparatus. The expansion of brass has been very accurately determined, as this metal is most commonly used for mathematical and astronomical instruments, where the utmost precision is required. Mr. Smollett found that 12 inches in length of call brass at 32°, expanded by 190° of heat, (or at the boiling point of water,) 225 ten thousandth parts of an inch; brass wire in the same circumstances expanded 323 parts; brass 16 parts, with one of tin, expanded 229 parts. The expansion of hammered copper is only 204 parts, but that of zinc is 353; so that brass holds a middle place in this respect between its two component metals.

The zinc is readily separated from brass by fire. When brass is heated strongly in open vessels to at least a copper-melting heat, the zinc of the brass takes fire, and slowly burns away. If this is continued long enough, little else is left but copper, though still containing a small portion of zinc, which no further continuation of the heat will entirely separate.

Some kinds of very fine brass, it is said, are not by cementation in the way already described, but by a more speedy and direct union of copper and zinc, care being taken to prevent the access of air to the materials while in fusion. Very fine brass may also be made in the same way, (and doubtless all in manufacture,) by mixing the oxides of copper and zinc, and reducing them together. This plan is ingenious, and the intimate mixture of the two metals, the great object in brass-making, is probably more accurately obtained in this way than by the common processes of cementation. The following experiment on this plan is given by Sage: Mix together 50 parts of oxide of copper, remaining after the distillation of verdigris (which is a very pure oxide) with 100 parts of basis calaminaris, 400 parts of black flux, and 30 parts of charcoal powder: melt together, till no longer any blue flame is seen to burn round the top of the crucible. When cold, a fine button of brass is found beneath the fœmin, weighing a fixed more than the copper obtainable from the oxide of this metal reduced in the same way, but without the calamine. This brass has a very fine colour, like gold. On this experiment M. Sage observes, that a fixed increas of weight gained by the copper, is the proportion which constitutes the fixed brass, and that which copper will always retain, however long kept in fusion, provided the access of air is prevented, as in this case, by the alkaline fœmin. When the copper retains a fixed of zinc, the colour is not so fine; and any quantity above a fixed will be expelled by the heat, even when the alloy is covered: and, on coming to the air, the zinc will burn. Hence the cellation of the zinc flame is in this experiment the proof, that the copper now retains no more than a fixed of zinc, and is fine brass.

The analysis of brass is a point of some consequence, and several methods have been proposed, some good, others defective.

Brass may, in some degree, be analysed by strongly heating in an open vessel, as above mentioned. The zinc then burns off, and when no more flame is given out, the copper is supposed to be pure. But Dizé has found that this mode is very uncertain, so that no two alloys of the same sample are compared, for it is not easy to tell when all the zinc is burnt off that can thus be volatilized; and the increase of weight, caused by the oxidation of part of the copper, throws a further uncertainty on this method.

Neither will a simple fusion of brass in the sulphuric or any other acid, and crystallization, answer the purpose; for, though much of the crystallized sulphur of copper may readily be picked out from the sulphate of zinc, the perfect separation of the two kinds of crystals is impracticable, and at last one species becomes mixed with a portion of the other, even in the respective crystals.

M. Dizé proposes the following methods:

1. Dissolve the brass in nitric acid, which takes up the copper and zinc, and leaves any tin with which it is often alloyed. Decompose the clear nitrat solution by potash, redissolve the precipitate in sulphuric acid, and add a piece of clean bright iron to the solution, previously diluted with a fix part of water. The copper is thus precipitated in the metallic state, and the solution now holds sulphate of iron, and sulphate of zinc. Thence M. Dizé proposes to separate by gallic acid, which flows precipitates the iron, and leaves the zinc. Lastly, the sulphate of zinc may be decomposed by a carbonated alkali, and the quantity of zinc in the carbonat may be estimated according to proportions, which will be presently mentioned.

This method is useful, but the separation of the iron from the zinc by the gallic acid, is exceedingly tedious. Sulphured hydrogen gas would be much shorter, and to be preferred.

2. Dissolve brass in nitric acid, dilute with fix parts of pure water, and immerse in the solution a cylinder of bright clean lead. The copper speedily separates in the metallic state round the lead, which last takes its place in the solution. As this advances, the liquor looses its blue colour; and when all the copper is separated, it becomes slightly yellow. To determine, however, whether all the copper is separated, add a fresh piece of lead, and boil the solution for some time. This now contains nitrat of lead, and nitrat of zinc. Sulphuric acid will precipitate thence the lead in the form of an infusible sulphate, and the nitrate of zinc may then be decomposed by a carbonated alkali. On this precipitation, however, there are some observations to be made. Copper, when dissolving in nitric acid, absorbs nearly 7/8 of its weight of oxygen; but lead, under the same circumstances, absorbs only 1°. Hence (as Vauquelin remarks on this subject in the analysis of brass) 100 parts of copper dissolved in nitric acid would require, for their dioxygination, (which takes place whenever one metallic oxyd in solution is precipitated in a metallic form by another metal immersed in it,) full 250 parts of lead, which last is of course oxidised in proportion as the copper precipitates in the metallic form. But this large quantity of oxyd of lead cannot be held in solution by the nitric acid, except this is largely in excess; and this explains why, as M. Dizé has observed, a portion of oxyd of lead is apt to form at the latter end of the process, and to mix with the copper, so as to require a subsequent operation to get the copper free from it. Nor will an excess of acid ensure the purity of the precipitated copper; for M. Vauquelin finds that...
if 50 grains of pure copper are dissolved in nitric acid to excess, and then precipitated by metallic lead, of which about 220 grains are requisite, the cuprous precipitate weighs 1.8 grains instead of the original 50 grains, and therefore is not pure copper, but an alloy of this metal, with a very large proportion of lead. This method, therefore, of analysing brafs is highly erroneous, unless the supposed copper precipitate be separately treated, in order to free it from the large proportion of lead with which it must be mixed.

The following methods are given by Vauquelin:

1. Dissolve a given quantity of brafs in nitric acid, put it in a well-closed bottle, and add caustic potash to excess, so that there shall be a sensible alkaline taste in the liquor; filter the mixture well, and keep it a short time in digestion.

By this simple process the oxyd of copper is precipitated by the alkaline, but the oxyd of zinc is re-dissolved in it; and if the liquor be now filtered, the alkaline solution of zinc passes through clear, and the oxyd of copper is left behind. This oxyd is brown, and nearly metallic in appearance. When thoroughly washed, and gently dried, it contains 65 per cent. of metallic copper. If one is assayed by a previous affray, that the brafs only contained copper and zinc, when the quantity of copper is thus obtained, that of the zinc may be inferred from the difference between the copper, and the weight of the brafs employed; or else the alkaline solution of zinc may be super-fattuated with sulphuric acid, so as at first to precipitate, and afterwards to redissolve the zinc, after which this metal may be precipitated as a carbonat, by adding carbonat of pot-ash or soda.

A very trifling quantity of copper passes into the alkaline solution of the zinc, occasioned by a small portion of ammonia formed by the nitrated metals when the caustic alkali is added, which takes up this atom of copper. If necessary, the copper might be again precipitated by heating the alkaline solution, so as to expel the ammoniac; but not to boiling, otherwise some of the zinc would separate from the alkali, and cause a greater error.

2. Dissolve brafs in sulphuric acid, dilute with 20 times as much water, and immerse a flint of zinc exactly weighed. The copper soon precipitates completely in the metallic state, which is to be well washed and weighed. The solution now contains only the zinc of the brafs, and the zinc dissolved out of the flint of metal immersed. By weighing the undissolved flint of zinc, and precipitating the whole by carbonat of pot-ash or soda, an easy calculation will give the portion of zinc belonging to the brafs: or, more briefly, this may be inferred from the copper obtained, and the quantity of brafs originally employed.

It only remains, on the subject of analysis, to give the metallic contents of carbonat of zinc. Dize dissolved 100 parts of zinc in nitric acid, precipitated it by carbonated soda, and this product, well washed and dried, now weighed 180 parts. Hence 100 parts of carbonat of zinc thus obtained, contain 55.5 of metallic zinc.

On the other hand, Vauquelin found that carbonat of zinc obtained from the sulphat by carbonated pot-ash, well washed and calcined in a crucible to expel all the carbonic acid, contained 69 per cent. of metallic zinc. Hence the carbonat obtained by Dize, it is obvious, must only have been dried at a low temperature, probably that of boiling water; and from either of the above data the quantity of zinc may be estimated; or else the carbonat or oxyd may be mixed with charcoal, and strongly heated in an earthen retort, without the access of external air, by which the zinc will be reduced, and will distil over, and condense in the cool neck of the retort in the metallic state.
Leoncini, two celebrated professors at Ferrara, but finished his studies at Paris. On his return, he was made physician to Hercules II. his sovereign, to whose daughter he dedicated one of his works. As he soon came into great request in his profession, and had acquired considerable knowledge in botany, and other parts of natural history, to which he had, in a particular manner, turned his attention, he was able, from his own experience, to correct several errors of his teachers, on the nature and qualities of drugs. The chief work by which he became known, is "Examen omnium simplicium medicamentorum, quorum unus in publicis officinis cit." Rome, 1536, fol. This work has been frequently re-printed. In the course of it he examines the qualities of some poisonous drugs, and affects on dogs, and other animals. He twice saw a cartilage, he says, of the form of a crofs, in the hearts of two flags. He had received manna from Syria, but preferred the Calabrian. He flew on which calcined mercury had been early given in the cure of the lues venera, though then diffused. "De medicamentis tam simplicibus, quam compostis, quae unico humori sunt propria," Figur, 1555, 8vo.; containing many valuable observations, principally from experience, on the effects of various purging medicines. He effected the cure of a maniacal complaint, in a person of rank, by the use of black helkbore, which had been many years diffused and proscribed. "Examen omnium syruperum, quorum publicus unus cit," Lardini, 1540, 8vo. This, as well as several other of his works, is written in the form of a dialogue, between himself and an apothecary. In the commencement, the apothecary gives an account of his manner of treating his wife, from whom he exacts the fame implicit submission that Petrucho requires from Catherine, on their wedding-day. When retired to their chamber, he says, he threw a pair of breeches on the ground, and giving his bride a flick, similar to one he held in his hand, infilled on her contending with him who should thereafter wear them; and having then conquered her, he had taken care to keep up his authority. The doctor reproves his guilt, and gives him some good rules for his future conduct. He afterwards, and in succession, published "Examinations of the compositions of eluates, pills, lozenges, trochilis, &c." besides "Commentaries on parts of the works of Hippocrates," "A Complete list of Galen's works," "A Treatise on the veneral disease, on the use of China root, guisicum, &c." in all of which he has many original observations. He died, according to Carrere, in 1554.

His son, BRASSAVOLA, JERON, published, in 1550, "De officinis medicis libellus," 4to, Ferrara. In this he treats largely on the duties of physicians, on their conduct in consultation, on the signs from which the prognostics in diseases may be drawn; also, "In primum Hippocratis aphorismorum librum expostilio," 4to, Ferrara. Haller, Bib. Med. Botan. Eløy Dist. Hilt.


BRASSE, in Ichthyology, a species of PERCA.

BRASSI, in Geography, a town of France, in the department of the Nievre, and chief place of a canton in the district of Clamaç; 10 miles E. of Corbigny.

BRASSICA, in Botany, is derived from C. Brouinie from βρλθθβ or βρλθθαν, which he says signifies to devour, because it is eagerly eaten by cattle; but this is a fene in which the Greek word does not appear to be used by ancient writers. Linnaeus derives it from the same word, and rightly rendering it to boil, supposes the plant is so called from its being a common pot-herb. Sculliger conjectures it is nally written πρλθραν from πρλθραν, a dish or garden. But as the word was not known to the who first called the plant from which Linnaeus as the genus πρλθραν; and afterwards πρλθραν, it is probably of Latin origin. By Varro and Festus it is derived from πρλθραν, on account of its being cut off from the stem. This feems forced, and the etymology must be allowd to be altogether uncertain. Lin. gen. pl. 320. Recchi. 881, Schreb. 1685. Jull. 236. Gartt. 443. Tab. 143. La Mareck Pl. 356. Smith Flor. Brit. 311. class. tetradyiinara filipouta. Nat. ord. filopouta or crucicina. Cruciferis, Jull.

Gen. Char. Peribach four-leaved, erect, a little converging. Leaves lanceolate-linear, concave channelled, gibusous at the base, erect, parallel, distinct. Cor. four-petalled, cruciform. Petals subovate, flat, expanding, entire, gradually delineating into claws about the length of the calyx; nectariferous glands four, ovate, one between each of the shorter flaments and the pill, and one between each of the longer flaments and the calyx. Stam. Filaments six, ovate-flattened, one of which two opposite to each other are the length of the calyx, and four longer. Authors erect, acuminate. Pbįl. gern, columnar, the length of the flaments; stye short, the thickest of the gern: stigma capitato, entire. Pericarp. Siliqua long, rather round, but flattened on each side, and in some species quadrangular, two-celled; partition prominent at the apex, two-valved, valves shorter than the distillation. Seeds many, globular.


It is dilluting from filipina by its firm and close calyx, and from raphanus by its siliques not being articulated. Its distinctive character is however very obscure, and some of its species might be referred to other genera.

S. Siliques slender, four-angled, with a very short permanent style.

Sp. 1. B. orientalis, Linn. persplicata, La Mareck. "Stem leaves cordate, embracing the stem, smooth; root leaves, rough, very entire." Root annual, spindle-shaped, small, white. Stem generally branched at the base, about a foot high, round, smooth, glaucous. Leaves glaucous, very entire, obtuse: root leaves obviate; stem leaves alternate: flowers small: petals white or yellowish, narrow: siliques very long, erect. A native of Spain, France &c. and rarely in England on the coasts of Suffolk, Essex and Suffolk. 2. B. auriculae, Joquin Anvill. Tab. 243. "Leaves cordate, embracing the stem, very entire, smooth. Siliques deeply furrowed." Distilling from the foregoing by its furrowed siliques and yellow flowers. Willden. Dr. Smith deems it only a variety of the former. Corn-fields in Austria and Thuringia. 3. B. campferis, Linn. "Root and stem slender, leaves cordate-acuminate, embracing the stem; lower leaves lined, toothed, somewhat bifid." Smith. Root annual, spindle-shaped, small. Stem erect, branched, round, smooth, rather glaucous: upper stem leaves alternate, very entire, smooth: lower a little toothed, lowatif and especially the root ones, toothed, toothed, and waved, hispid beneath at the veins; all glaucous, and paler beneath. Leaves of the calyx scarcely cohering, a little spreading. Petals yellow, three times larger than those of the orientalis. Siliques erect, round, obsolescent quadrangular, circularly veined, torenhife, with an awl-shaped back, quadrangular at the base, fringed. A clearly distinct species. Smith. A native of Europe, and plentiful in some parts of England. La Mareck considers both the campferis and the auricula as varieties of the orientalis. 4. B. arvensis, Linn. Mant. "Leaves embracing
BRA


The first five species are cultivated merely for curiosity. They should be sown early in the spring, on a bed of light earth, and when they are sufficiently grown, thinned, but not transplanted. They will flower in June, ripen their seeds in August, and afterwards sow themselves, requiring no further care except weeding. Those species that are cultivated in the garden or field, for the use of the kitchen or cattle, or for other purposes, are the B. Napolé or Navar., under the name of coleole or rape, (see Coleseed) a variety of the B. rapa, or Turnip, (which is the) cabbage; the cauliflower; and broccoli; the turnip cabbage and turnip-rooted cabbage. We may here observe that the cabbage has been reclaimed from its wild state, and cultivated as a valuable succulent vegetable, from the remotest antiquity. It was well known to Theophrastus, and is mentioned...
tioned by all the succeeding Greek and Latin authors who have written on the natural history of plants, or on subjects of rural economy; but, like all other cultivated plants, it has gradually undergone so many changes, and assumed so many permanent varieties, that it is not easy to form a description which will apply to the whole. We may, however, observe in the general, says Duchesne, who has written a particular treatise on it, that it has always a flabby, cylindric, ascending caudex; a branched, smooth, and leafy proper caulis or stem; alternate, smooth leaves more or less green, or tinctured with red or violet; the lower ones petiolate, runcinate at their base, and more or less finate; the upper ones simple, smaller, and often embracing the stem; and flowers rather large, yellow or nearly white, in upright, loose, and terminating racemes, succeeded by nearly cylindric siliques.

The numerous varieties are divided by Mr. Miller into three grand families. 1. Those which grow in a natural way, without forming the leaves or stalks into a head, comprehending the wild colewort, the green colewort, the borecoles, and the turnip cabbage. 2. Those which form their leaves into a head, and to which the English gardeners exclusively apply the term cabbage. 3. Those which form their stalks into a head, as the cauliflower, and the different kinds of broccoli.

Duchesne throws them into six divisions. 1. The wild colewort, unaltered by cultivation. 2. The improved kinds, which do not form a head, or undergo any remarkable change in the stalk or root. 3. The proper cabbages. 4. The cauliflower. 5. The turnip-cabbage. 6. The turnip-rooted cabbage.

I. The wild colewort unaltered by cultivation.

Our English botanists agree in considering the sea cabbage, the maritima arborea f. procer. ramosi maritima of Morison and Ray's Synopsia, as the parent stock. But Duchesne places this plant under his second division; though rarely with little propriety, for he allows, at the same time, that it grows wild on the coasts of England and France. Notwithstanding this incongruity, the arrangement is implicitly adopted by La Marek and Boce. Ray affirms that the sea cabbage is perennial, and supposes (Hist. Plant.) that the brassica rubra vulgaris of John Bauhin is only a land variety of it. Hudson, Robson, Wither., (1st edit.) and even Dr. Smith make it biennial. Miller, who, according to Mr. Martyn, seems to confound it with the napo-brassica or turnip-cabbage, says, that it grows naturally on the sea-shore near Dover; that it has a perennial branching stalk, in which it differs from all the others; that the leaves are inclining to a purple colour, and are placed alternately on the branches, (exactly agreeing in this respect with the description given by J. Bauhin). He infers that it is a distinct species, having always found the seeds to produce the same plant, with this difference only, that in good ground the stalks will be much stronger than in poor; and adds, that the young shoots, after they are much frozen, are very sweet and good, but at other times are strong and stringy. He observes afterwards, that the perennial colewort is little cultivated in the gardens near London, as not being so good for the table, unless in very hard frost; though it is very hardy, will grow two years before it runs up to seed, and will afterwards produce many side shoots, continuing in poor land three or four years, but in rich soil not so long. La Marek and Boce, adopting the description of Duchesne, confirm the opinion of Ray and Miller. In France several other kinds have been grafted on this stock; and though the produce has not been of long duration, it has always been very remarkable. Upon the whole, it seems probable, that the perennial colewort of Miller is the only improved variety of the sea-cabbage, and that the French botanists are right in seeking for another origin of our common cultivated biennial kinds.

The plant which Duchesne thinks the parent of the common garden colewort, the borecoles, true cabbages, &c. is what he calls brassica nebraca armata, which he describes as growing from a small, fibrous tap-root, about 15 or 18 inches high when wild, but rising to the height of four or five feet when cultivated, and having a branched stem, with small flattened leaves more or less deeply divided; the lower ones lycr-shaped, the stem ones heart-shaped, elongated and fleshy. It is much cultivated in the Netherlands, and especially about Lille, for the use of cattle, and for the sake of an excellent oil compressed from its seeds, which must not be confused with the oil of the navv, or rape oil of England. It is sown in July, should be transplanted about the middle of September, and ripens its seeds about the middle of the July following. If designed for cattle, it should be sown in June, and the leaves may be plucked in October; but as it is hardy, it is better to preserve it till other kinds of green forage begin to fail. After winter, if its stem be cut some inches above the ground, it will produce a second crop of leaves for spring use.

II. Of the cultivated improved kinds which do not form a head, or undergo any remarkable change, either in the stalk or root, the principal are the common green colewort, or Dorsetshire kale of the English gardeners; and the borecoles or curled cabbages. The common green colewort is cultivated in France, and in some parts of England, to feed cattle and sheep, but is not used in the kitchen till it is tendered by frost. It is nearly superceded in the gardens about London by the sugar-loaf cabbage plants, which, from December to April, are the sweetest greens yet known. The borecoles are more esteemed than the common colewort, as being more delicate and equally hardy; but like it they are tough and bitter, till they have been exposed to frost. (See the next article.)

III. The proper cabbages, whole leaves form a head.

The effect of cultivation upon this variety is confined to the lower leaves, which are large, roundish, and nearly entire; and are set far to together, that they lie upon each other like the scales of a bulb; and increasing in compactness as they increase in size, prevent, for some time the development of the flowering stem, and its branches. (See the next article.)

Cabbages were a favourite excellent vegetable with the Romans; and as the late excellent Mr. White has observed, must have been known, in some of their varieties, to our Saxon ancestors, since the month of February was called by them frountales. They are still in universal use, but are often productive of flatulence and indigestion. The winter cabbages are most wholesome, especially when they have been tendered with frost. They are said to be improved in this respect at an earlier season, by being kept some time after they are gathered, and suffered to wither a little before they are dried. An agreeable pickle is sometimes made of them, by cutting them into six or eight pieces, according to their size, putting them for a few moments into boiling water, and then plunging them in vinegar, which, especially at first, should be occasionally changed, swarming in a little salt each time. In this form they are an excellent antiscorbutic, and are found a valuable sea-fare. The Germans and other northern nations have a still more salutary and pleasant preparation, which they call four-croot. With an instrument made for the purpose, they cut the head of a large variety (brassica capitata maxima) into small shreds,
and then lay them on a cloth to dry in the shade. They afterwards put these shreds into a common cauldron open at one end, and if it has contained wine or vinegar, it will be more favourable to the necessary fermentation: otherwise the middle should be rubbed with a little leaven of old four-croute. The cover of the open end should be strong, that it may contain a large weight, and should have a handle fixed in the middle that it may be readily put on and taken off. A quantity of very fine sea salt should be procured, in the proportion of two pounds to twenty cabbages. A layer of this salt is first evenly spread at the bottom of the cauldron, and this is placed a layer of the shreds six inches thick. A man in strong boots, well washed and very clean, then puts into the cauldron, and treads down the maff till it is reduced to the thickness of three inches. Similar layers of salt and shreds of cabbage are put in and trodden down in their turn, till the cauldron is nearly full, but the last layer must be of salt. Some large fresh cabbage-leaves are then laid on, and covered with a wet cloth; and on the cloth is put the cover of the cauldron. The shreds of cabbage are pressed down by heavy weights, to prevent the evaporation from swelling and rising during the time of its fermentation. A fennel, or juniper berries, or, which is much better, a caraway seed, is mingled with the cabbage, but not with the salt, and an empty space of about two inches is left at the top. The shreds are soon deprived of part of their vegetable juice by the pressure. This juice, which naturally rises to the top, is green, turbid, and fetid, and is drawn off by means of a cock placed two or three inches below it. A new brine is then added, which also soon becomes foul, and is drawn off in the same manner.

After these operations have been continued twelve or fifteen days, more or less, according to the temperature of the place, the liquor will remain clear and sweet; but care must be taken that there be always an inch of brine at the top, and that no space be left between the cover of the cauldron and the cabbage, which will otherwise acquire a putrid offensive smell. Sour-croute, well made, and well kept, has a very pleasant acid taste, especially if it be washed after it is taken from the cauldron; and mixed, before it is served up, with a little vinegar. It has been found highly serviceable in long voyages, as a preservative from the sea-scurvy. For the IVth, Vth, and VIth divisions, see the next article.

**Brassica.** In Gardening comprehends cabbage, broccoli, turnip cabbage, cauliflower, Broccolicolus, or rape, and turnip; and of course affords some of the best succulent vegetables of the kitchen garden.

The species chiefly cultivated are such as follow; viz. the B. oleracea, or common cabbage, which has a biennial root, and upright, fleshy stalk, of oblong roundish leaves, which in some varieties closely cabbage into large compact heads; but in others they spread loose and open.

The varieties of this are the common heading cabbage, with a roundish, oblong, closely-cabbage head, of roundish, or oblong, plane, entire leaves; the Savoy cabbage, with a roundish and oblong closely-cabbage head, of roundish, crumplly-curled leaves; the frimbirated open cabbage, or broccoli, having a tall stem, crowned by an open loose head, of oblong cut, frimbirated-cabbage leaves, spreading open but never cabbage: the Siberian broccoli, Scotch cole or kale, with a frowm stem, crowned by a large open head, of oblong, roundish, broad, thick, cut, curly leaves, not cabbage; the green, common, open colewort, having a short stem, crowned with an open head of oblong plane leaves, not cabbage; the turnip-cabbage, with the falk and root swelling, turnip-shaped, being crowned by a head of open oblong-leaves, never close to cabbage; the cluttered brassica, or cauliflower, with an upright frowm stalk, crowned by an open head of oblong, narrow, plain, entire leaves, not cabbage, but having a large cluttered flower-head in the centre; and the Italian cabbage called broccoli, having an erect robust stalk, crowned by a large open head of oblong, dark, and light-green plane leaves, not cabbage, but affording a cluttered flower-head in the centre, in the manner of a cauliflower.

B. Napus, navew, rape, or cole, has a frowm-shaped biennial root, and oblong, frowm-shaped, deeply divided, frimbirated, smooth leaves, not cabbage; the stem leaves being oblong and cordate. This is seldom cultivated in the garden, but is valuable as a field crop; the culture, application, and use of which will be described hereafter. See Cole. B. Rapa or turnip, produces a large round frowm annual root, crowned with oblong, cut frimbirated, rough leaves.

As these plants are mostly considered among gardeners as different, and as requiring different modes of culture, they may be treated of under separate heads.

Of the B. capitata or common heading cabbage the varieties are numerous, and all denominated cabbages, from the circumference of their inner leaves turning in close, and another, till by degrees they form a large, compact, globular, or oval head, some of them attaining a very large size. And as some of them are in perfection in summer, and others late in autumn, they are sub-divided into fummer and autumn cabbages.

Of the early summer kind the varieties are the small, roundish, early cabbage, and the larger, oblong, early cabbage. The fift comes early in May, and the second about the middle, or latter end; both of them soon become very hard, and crack; and, therefore, no considerable quantity should be raised, where the use of the family is only regarded.

Of the sugar-loaf kind the varieties are the early dwarf fugar, the large, and hollow sugar loaf. The fift is a small, longish, pyramidal cabbage, which comes in early in June, and is very sweet white young; but soon grows hard. The second is a large, pyramidal, hollow cabbage, that comes in about the end of June, and is in full perfection in July and August, seldom growing hard or cracking. It is a fine family and market cabbage.

The earl, Yorkshire cabbage is a roundish, oblong, heading cabbage of a moderate size, growing close, hearting quickly, and cabbageing early in summer, as in May, June, or July, &c. It is an exceeding good, tender-baking, sweet-eating cabbage, proper to cultivate with the large sugar-loaf kind, &c., as a principal, early, and general summer crop, and for autumn and winter use as young light cabbages.

The early Battersea cabbage is a roundish-oval-heading, rather smallish cabbage, that heads quick, comes in early, and is excellent for use while moderately young, or of middling light growth, before it becomes very hard.

The early Russian cabbage is a small roundish cabbage that comes in about June and July, heads very full, and soon grows hard: but if used while young and hollow is very sweet and tender.

Of the autumn and winter kinds the principal sorts are the common round white cabbage, which is a large middle-sized, roundish, very white cabbage, that is in perfection about August and September, and which gradually acquires a degree of hardiness. It is hardy enough to endure the winter.

The long-led cabbage is a large, oval, and roundish hollow cabbage, which never grows hard, is exceedingly sweet and tender, and in high perfection in August, or September and October.
The drum-head, or great flat-topped cabbage, is a very large spreading cabbage, generally very broad, and flat at top, and pretty close and firm. It is in perfection in September, and will continue till Christmas, or longer.

The hollow cabbage is a large, roundish-oval, hollow cabbage, which seldom grows hard, is sweet, tailed, and comes into perfection from August to October.

The mule cabbage is a middle sized, roundish, hollow, very tender, crisp-eating cabbage, of a mildy scent. It is in perfection from August or September till Christmas.

The giant, or great Scotch cabbage, is an admirable, large, roundish cabbage, heading very close and hard, arrives to perfection in September and October, and will continue all winter. It is principally valued as a field cabbage for feeding cattle; but eligible also occasionally for family use.

The American cabbage is a very large roundish cabbage, principally for field culture.

The Devonshire cabbage is an exceedingly large very good cabbage, eligible both for the purposes of the two last sorts, and as a profitable domestic cabbage, about the end of autumn and in winter.

The red cabbage is a middle-sized, roundish, thick-leaved cabbage, heading very hard, the whole of a red colour; the darker the red, and the more thick and fleshy the leaves, without any white in the ribs and veins, the more valuable. It is in perfection from August to the end of winter, as well as all the spring months till May; esteemed principally as a choice pickles, and to eat raw as a salad.

All these sorts or varieties of cabbage are biennial, being raised from seed, and attaining perfection the first year; and the second shooting up into flalls, to flower, and seed, soon after wholly perishing.

Both the summer and winter kinds are raised from seed sown annually in beds of common earth, from which they must be afterwards transplanted. The chief periods of sowing are autumn and spring; those plants raised in the autumn arrive at perfection early the following summer; and the spring-raised plants cabbage the same year in summer and autumn, and attain full perfection. But the larger autumn sorts, sown in the spring, do not in general cabbage so soon in autumn, or to so large a size as the autumn-raised crop, planted out chiefly in the latter-end of that season or the beginning of winter, or partly early in the following spring, but will be cabbaged in good perfection in August and September. It is of course always proper to sow some in both the autumn and spring seasons.

Method of culture in the summer kinds.

In the culture of these plants, for the early and first general summer crops, the proper sorts are the dwarf and other small earlier kinds, which it is necessary to observe should only be sown in small portions; larger supplies of the Battersea, or, which is probably better, the large furgar-loaf, and Yorkshire, being put in, the former to come in early as in April and May, and the others to succeed them in June and July. Some of the early Russia cabbage may also be provided.

Thus the autumn sowing serves for the early and first main spring and summer crops of the following year, and the spring sowing for succession crops in summer and autumn. Where the autumn sowing has been omitted, care should be taken to put some seed in as early in the spring as the weather will permit, as the beginning or any time in February, or early in March, in a warm situation for the purpose of early cabbages.

In order to raise an early and general summer crop of any or all of these sorts, a suitable quantity of good fresh feed should be sown precisely about the first or second week in August; as if sown earlier, the plants are apt to run up to feed in spring; and if sown much later, they do not acquire due strength before winter.

For this purpose a spot of rich ground in an open exposure is to be carefully prepared, by digging it nearly one foot deep, and divving it into four feet wide beds; sowing the seeds immediately, each part separately, and raking it in evenly. If the season proves rainy, the plants will rise in ten or twelve days; but if dry weather prevail, it is necessary to water the beds frequently, both before and after the plants appear, and to keep them clean from weeds. When the plants have leaves of an inch or two in breadth, it is proper to prick out a quantity of the larger plants from the seed-bed into nursery-beds, in order that they may acquire due strength, previous to their being planted out for good in October, and the following spring. In this intention, dig over an open spot of the best ground, and divide it into beds as before, raking the surface smooth; then prick out the plants in rows six inches distant, and three or four inches apart in the rows, giving them a full watering, which, if dry weather succeeds, must be repeated occasionally.

The plants may remain in this situation, some till October or November, and the principal part till February, March, or April in the following year, at each of which periods a quantity of the floutest shall be transplanted into the places where they are to remain to cabbage; good ground in an open exposure being allowed them, which, if well dunged, and dug in about a foot deep, will be the better. The plants are mostly put in by line and dibble, in rows; the small early kinds at two feet distant, and about one and a half in the rows; but the large furgar-loaf and Yorkshire kinds should be set two feet and a half distant every way. A double quantity of these sorts should be planted, for the supply of a family; as the small early kinds seldom continue long before they grow hard.

But in planting crops of early or summer cabbages, either in autumn or spring, some may occasionally be planted clover than these distances advised for the principal flouting crops, in order to admit of thinning out for use, by degrees, in young small growth, and a portion also planted in rows at only eighteen inches, as under, by a foot in the row.

It is necessary to observe that, as the autumn plantings sometimes suffer by the severity of frost or other causes in winter, the deficiencies should be made good occasionally from the plants in the nursery beds.

Those that have remained in these beds all winter should be planted out in February, if the weather be temperate and open, where they are to remain, though, if much cut by the winter frost, it is better to let them remain until March or April to become strong. When the winter happens to be so severe as to cut off most of the autumn-raised plants, recourse must be had to an early spring-fowing in February or March; the sooner the better.

Where constant succeions of perfectly young cabbages are required through the summer and autumn season, it is necessary to perform spring and summer sowings to succeed those of the autumn-raising. Some seed of the large furgar-loaf and Yorkshire cabbage should be sown in February, March, or the beginning of April, and smaller portions in May, managing them as already directed, which will furnish supplies of young cabbages in July, August, and September, &c. A small crop may also be sown in June, or early in July, to plant out for successeions of small young cabbages, or good cabbage colewort, in the latter end of autumn and early part of winter.

All the culture cabbage crops require, after being planted H

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out where they are to grow, is hoeing the ground over occasionally between them in dry weather, to destroy weeds, and loosen the surface of the earth, in order to encourage the growth of the plants; and when they have advanced a little, drawing some earth once or twice about the bottoms of their stems, to strengthen the plants and forward them; as in forward springs the careless forts will often make efforts for heading the latter end of April or early in May; if anxious to have them as forward as possible, four of the belt may be allailed, by tying their leaves moderately close together, with an after twine, or piece of bafe, which promotes their vegetation, whiteens them internally, makes them more crisp and tender, and causes them to be ready for use a week or ten days earlier. In cutting summer cabbages it is proper to press some flakes to remain to produce crops of sprouts, which they yield abundantly. These may either be gathered while young and green, or some left to stand for forming little heads, either of which are in many instances preferred to other summer greens; for this purpose sugar-loaf

and Yorkshire cabbage-flakes should be preferred.

Method of culture in the autumn kinds.

In the culture of these forts it is necessary to consider those of the white or green kinds, and the red separately. These forts are adapted principally for autumn and winter use, as they rarely attain any degree of perfection before August; and some of the larger kinds not till September and October, but continue in excellent condition till Christmas, or sometimes till the end of winter, some of the forts arriving at a great bulk. When used while young, or before they grow hard, they are excellent for culinary use. The scallion for fowing all the late kinds is, as has been observed, either autumn or April; but to have a large succession, it is necessary to sow some seed at both seasons, those sown in autumn and the first week in August arriving at perfection early in the following autumn, as August and September; and the spring sowing coming in about the beginning or middle of September, or towards Michaelmas, though they seldom attain any tolerable perfection till the end of October. They are very fine in November and December, but rarely attain so large a growth as the autumn-raised plants.

The same method of putting the feed in, and pricking out the plants, is to be observed, as in the summer kinds. The time for planting out the autumn-raised plants is, for a few

October or November, but for the principal part February, or early in March; and for the spring-raised plants, May and June. All of them must have an open exposure of well dunged ground, and the plants set in rows two feet and a half at least distant; and for the larger kinds, a yard distant each way should be allowed.

All the culture they need is that of hoeing, to extirpate weeds, and drawing earth about their stems, which is an essential piece of culture in the whole cabbage tribe of plants.

The red cabbage is principally valued for pickling, and occasionally for being shred small and eaten as salad, sometimes also for stewing. It attains perfection in autumn and winter.

The culture which it requires is nearly the same as in the former forts. The feed may be sown in autumn and spring; but as it is a late cabbage, the spring-raised plants do not require the full size for sowing in the proper scallion as those tawn and raised in the preceding autumn; though it is generally proper to sow some feed in both these leasons, in order to obtain a larger succession.

It is most advisable to sow the main crop in autumn, or in the beginning of August, as in that case the young plants will be fit to prick out in September or October in nursery-beds. They should stand four or five inches asunder, and be watered if the weather be dry. The plants are to remain till they acquire a proper growth for planting out where they are to grow, some during the same year in November or beginning of December, and the rest in the spring following; or the whole till that season, as February or March. In either case, it is necessary to allot an open situation of good mellow ground, which should be well dug over and manured with dung; a quantity of the strongest plants being then drawn from the nursery-bed, should be planted out in rows not less than two feet and a half distance every way. After being thus planted out where they are to stand, they only require the culture of occasional hoeing in their advancing growth in spring, and beginning of summer, to destroy the rising weeds, and loosen the surface of the ground, and at the same time drawing a little earth about the lower parts of their stems. They will by this means advance in their growth in a spreading open manner at first and towards autumn, gradually form closing heads in the centre, and increase to large cabbaged-heads in full perfection in September and October, &c., continuing firm for six months or more, being hardy enough to resist the severest frosts. Not only a spring fowing is necessary to have a succession to the autumn late main-crop ready, if wanted in winter, and the following spring, but also to continue longer in the latter leasons before they shoot for feed. If the sowing for a main-crop in autumn has been omitted, some feed must be sown in the spring, as in February or early in March, but not later than that month.

The young plants may be pricked out in April or beginning of May four inches asunder, and occasionally watered, continuing a month or five weeks to gain some tolerable strength, and then planting them out two feet and a half asunder, where they are to grow, giving them the necessary culture of hoeing, as in the former-mentioned crops. They cabbage in moderate heads about September and October, and continue increasing in size during November, if the weather be open, and are proper for use in that season, and continue good late in the spring till April and May.

In order to obtain a spring sown crop as forward as possible for finally planting out, some feed may be sown in February, in a moderate hot-bed, and the young plants pricked out in March or beginning of April, in a warm situation, or in a frame, if an unkindly scallion happens, to have occasional protection, with glaffes, &c. in cold nights and sharp cutting weather, to continue them forward in proper growth for letting out in April or beginning of May, and thereby they not only cabbage sooner but in greater perfection and size in autumn.

For the field culture and modes of application of this plant in feeding cattle, see CABBAGE.

Method of culture in cabbage coleworts.

Cabbage coleworts are almost generally substituted in place of common green coleworts, which, though valuable on account of their hardiness in being proof against frost, yet, as table greens, are apt to boil tough and be rank tasted, being greatly inferior to the latter. What were formerly understood by coleworts were fuch cabbage-greens as never closed or cabbaged, but always remained quite open and green to the heart, and were raised for autumn, winter, and spring use as open greens; but at present cabbage plants, while they continue open and green, or just forming little central hearts, are mostly denominated coleworts, and are the most sweet and tender greens that can be cultivated for autumn and winter eating, continuing fine all the season till summer cabbages are ready. For winter and spring supplies, a considerable quantity of these coleworts should always be
be raised in autumn, and occasionally in spring and summer, for summer and autumn coleworts, such as some of more early and clove-growing, quick-hearing cabbage kinds, as these, even in their young state, will generally have small closing hearts; and what are not used in their young colewort growth may be permitted to stand to grow to proper full headed cabbages. For this purpose, any of the smaller or moderate sized sorts of white or green heading cabbages may be cultivated, though it is most advisable, as just observed, to fix upon some of the early or summer kinds, as being of a more clove heading growth, more tender, and sweeter than the larger sorts. The most eligible of these are the fugar-loaf, Yorkshire, and Battersea cabbages, though the fugar-loaf kind generally surpasses all the other sorts for eating.

The proper time for sowing the feed in this view is any time in July, for the autumn and winter crop; but to have them continue, without running for spring drawing, some should also be sown the beginning of August, as in cabbages, as by this means the plants will continue in a colewort state all the spring months till May, when such as remain advance in growth to heading cabbages, either to cut young in small hearts, or to stand and form proper cabbage headed as may be required. But where a succession of coleworts is wanted all summer and autumn, it is proper to sow some of the same sorts also in the spring, in February, March, or beginning of April, and in June and July to plant out at different times, and thus provide coleworts and small headed young cabbages throughout the summer months.

In raising these different crops of coleworts, some feed for each should be sown in an open situation, moderately thick, raking in even, and when the leaves of the plants are two or three inches broad, the plants should be cut out where they are to stand, in rows a foot and a half that distance in the rows; all the culture they afterwards require is, to have the ground occasionally hilled to destroy the weeds, and loosen it about the plants. When the plants are as large as a full grown coif lettuce, they are of proper size to be drawn as coleworts.

In drawing them for use, especially the spring crops, where there is a large quantity, every other row may be taken, permitting the intermediate ones to stand to cabbage, cutting for use also every other plant in the remaining rows, according as they form little hearts, leaving the others to cabbage more perfectly.

**Method of culture in the Savoy kinds.**

The Savoy is a variety of the cabbage, which, with care, always retains its difference from seed; it admits of some varieties, all of which have crumby curled leaves, and head or cabbage to a large size. The principal varieties are the common green Savoy, the large green Dutch Savoy, the yellow Savoy, the round headed Savoy, the oval headed Savoy, and the fugar loaf Savoy, which are all excellent for autumn and winter use.

They are propagated by feeds sown at two or three different times, from the beginning of February till the middle of April; and for the very early autumn crop, a sowing may be made in August. Each sowing should be made in an open situation, and the feed raked well in. When the plants have leaves an inch or two broad, and stand thick in the seed bed, it is proper to prick out a quantity of them on separate beds three or four inches distant, to acquire strength against the time of planting them out finally. Some of the autumn raised plants may be set out in October or the following months, if the weather be open, and wholly in the beginning of spring; and those raised from early spring sowings should be planted out finally as soon as the plants are of proper growths. The general crops of the later spring-raised plants may be planted out occasionally, as ground is cleared, from May till August: those planted out early being set two feet and a half distant every way; and the next crop about two feet; but the later plantings need not be planted at more than a foot and a half distant.

It is sometimes customary to plant out the summer crops of these plants between rows of forward beans peas, kidneybeans, cauliflower, early cabbage, and other plants, that stand distant in rows and are soon to come off the ground, as by the practice some ground is saved; but the plants are generally best when they are planted out in an open clear spot of ground, previously well dug over for their reception.

In performing the summer plantings it is of much advantage to choose mild weather for the work. Otherwise watering must be practiced several times till the plants have formed fresh roots.

All the culture that is afterwards required is, to hoe them well, to destroy the weeds, and to draw a little earth up to their roots occasionally.

**Method of culture in the borecole kind.**

In the borecole varieties of cabbage, the plants are open, never closing to form a head or cabbage. They possess a peculiar degree of hardiness, for it is almost to bid defiance to the severest winter. The sorts mostly cultivated are the green curled borecole, the red curled borecole, the thick-leaved curled borecole, and the finely fringed borecole. They most rife with a thick flake a yard or more in height, frummented by a large head of thick leaves; in some spreading horizontally every way, being finely fringed and curled, but there are others that grow more contracted. In all the sorts the stems produce numerous fine sprouts early in spring, closely surrounding them for some length, and which, as well as the principal or main top heads, boil exceedingly green and tender. The main heads come in for use in autumn and winter, and the sprouts early in the spring.

They are raised by sowing feed annually from March to the middle of April, for the main crops; and a smaller portion, in the beginning of May, for a succession. They should all be sown in open situations, not too thick, and the feed raked in. A quantity of the plants, when the leaves are an inch or two broad, should be pricked out on beds four or five inches asunder, to remain five or six weeks, so as to obtain a proper degree of strength for the late crops to be selected out finally in June and July for the main crops, in rows two or three feet and a half asunder; and for the late crops, early in August, planting these in rows two feet apart and eighteen inches in the rows. Moist weather should, if possible, be chosen for this purpose.

A small crop may also be sown in autumn, or the beginning of August, to stand the winter in young growth, and be planted out early in the spring, in order to be of the largest full size in the following autumn.

For the field culture of these plants, and their application as the food of cattle, sheep, &c. see borecole.

The Siberian borecole, or Scotch cole, is a sort, some of which grow with very tall stems and large open heads; others more robust, with shorter stems and larger heads of broad early leaves; in some sorts, spreading; in others, standing erect. These sorts are not so generally esteemed as the common borecoles to cultivate in the garden in any considerable crops; they, however, boil tolerably tender and good in the winter, and the heads furnish young sprouts after the main tops are gathered, so that they might be cultivated for winter and spring use. They also answer well in the field. See borecole.

There are some perennial varieties of the borecole kind, with
with variegated leaves, which are cultivated as plants of ornament and curiosity. There are others also of a somewhat perennial shrub by nature, rising with tall branching stems, furnished with leaves all the year round; of some of which are curiously variegated, the plants surviving several years. Those with variegated leaves make an highly ornamental and curious appearance.

These sorts are propagated and continued principally by planting the offsets, slips, and slips of the side shoots, in the spring or summer seasons, watering them till they become well-rooted.

The common or green colewort is a hardy biennial plant of the open-headed kind, with a short stem producing a head of large, oblong, plane, entire leaves, generally of a green colour. It is a very hardy plant, and was formerly cultivated for winter greens, but, till recently picked by frosts, is tough, rank-tailed, never boiling so fine and tender as the cabbage coleworts, for which reason it is rarely cultivated now for the table. They may be raised for winter use by sowing the seed in July, as directed for cabbage coleworts.

The Anjou cabbage or colewort is a plant of the borecole kind, which grows tall, and produces very large open heads. It is raised as the preceding kinds, but must be planted out at a much greater distance.

Brussels sprouts, or clou de Milan, is a dwarf, perennial, open colewort, very productive of sprouts all the year round. It is raised by seeds, as in the other open coleworts, and by the perennial roots, the smallest bit of which will grow and increase very fast.

Method of culture in the turnip cabbage kinds.

This is a singular variety of cabbage, having its stalks swelled globularly, like a great turnip, and crowned by a large tuft of leaves, which never close or cabbage. The sorts are the turnip cabbage, with the turnip above the ground; and the turnip cabbage, with the turnip beneath the ground. The plants rise and grow for some time, as in the common open colewort kind, till they form bulbs. It is the globular or turnip-part of the plant that is used, being sometimes sliced in soups, and by some used as common turnips; but unless employed when quite young, they are rank and unpalatable. They are much recommended for culture in fields, as a green food for cattle and sheep; their chief merit is their hardiness, as they are capable of withstanding the hardest winter. See TURNIP CABBAGE. These plants are propagated by seed sown annually in March, April, and June, being set out in an open situation, in rows two feet asunder, keeping them clean from weeds, and throwing a little earth about the bottom of the stems occasionally. The turnip part will be fully grown by Michaelmas, and continue all winter for use. They may likewise be sown where the plants are intended to remain, and be hoed out to proper distances. This last is probably the best method of cultivating field crops.

Method of culture in the cauliflower kind.

The cauliflower is supposed to be a variety of some of the sorts of common cabbage, brought up to its present improved state by diligent culture. Mr. Miller infers that the cauliflower is specifically distinct from the common cabbage; because, in a course of fifty years' experience, he could never find the least appearance of one approaching the other; because they are so different in their leaves, when the plants are young, as to be easily distinguished; and because the common cabbage puts out one upright item from the centre, which afterwards divides into several branches; whereas the cauliflower sends out many flower items from the part that is eaten, which is a compact collection of the heads of the flowers, dividing afterwards into so many items, and branching out into many spreading shoots, so as to form a large spreading head when in flower, but never rising pyramidically like the cabbage. But, however, affords, that though in a well cultivated soil it may be kept from degenerating, by being properly watered, it will become a common cabbage, if neglected. It was first brought to England from the island of Cyprus, and, in the course of the last century, has been so much improved in our kitchen gardens, that most parts of Europe are now supplied with English seeds.

The varieties are the early cauliflower and the late cauliflower, which are alike in their growth and size, only the early kind comes in about a week before the other, provided the true sort can be obtained, of which, however, there is no certainty, unless by sowing the seed from the earliest sorts, as is the practice of the London kitchen gardeners, who are always in possession of an early and a late kind of the former, of which they are very careful. Both the varieties are of a delicate nature, being generally too tender to reft the cold of the winter season, without the occasional aid of glasses or other means. Those who are curious in the culture of the cauliflower, have generally three or four crops in the year; as an early summer crop, a main summer crop, a late summer crop, and an autumn or Michaelmas crop.

The proper season for sowing the above crops are, for the early summer-crop, about the middle of August; the plants which rise in the same season are to be pricked out, and preserved through the winter, under bell glasses, hand glasses, frames, or other conveniences, which, being planted out in spring, arrive at perfection the ensuing summer, from May to July and August. For the late summer crop to succeed the above, the feed must be sown in February, or early in March, but not later than the first week in April, the plants being set out in May to come in for use in August and September. And for the Michaelmas or autumn crop, the sowing should be performed about the middle of May, the plants being set out in July. These are ready after Michaelmas, and the following month, come to perfection gradually in October, but are never so large, fair, or perfectly headed as the summer crops.

In the culture of the early and main summer crops, great attention is necessary to procure good feed, such as is not more than a year old, and which has been saved from the bell sorts. For the purpose of raising them in the greatest perfection, a bed of the richest light earth, in the full ground, in a free exposure, is to be prepared at the proper period, by digging it well over neatly, one spade deep, and breaking the surface fine, then, either sowing the feed on the surface, and raking it in evenly and lightly; or first, raking the surface smooth, and then sowing the feed, lifting light earth over it to a quarter of an inch in thickness. When the weather is dry, gentle waterings, in the evening, are necessary, both before and after the plants appear; and, if very hot, dry weather, it is advisable to shade the bed moderately with mats in the heat of the day. The plants generally appear in a week or ten days. All the culture necessary afterwards, is occasional watering and weeding, until towards the latter end of September, when their leaves will be an inch or two broad; a quantity of the bell plants should then be pricked out, in four feet wide beds of rich earth, in rows three or four inches distant, rejecting all crooked and black-flanked plants. As soon as they are planted, a moderate watering should be given, which, when dry weather prevails, should be moderately repeated. The plants must remain there till about the end of October, when they should be transplanted into their winter quarters, some being planted out under hand or bell glasses for the earliest crops; others
others into garden frames, to be occasionally protected by glasses till planted out in the spring.

The plants intended to be wintered in frames may also, occasionally, be pricked out from the seed bed at once into the frames to remain. For the plants to be cultivated under glasses, a proper bed of the richest mellow ground should be provided in the heat defended and warmed part of the garden, in a free exposure to the full sun, being well dunged with the beef rotten dung, such as that of old cucumber melon beds, or any other of similar quality, spreading it equally over the ground at least three or four inches thick, and the whole then regularly trenched in one good spade deep, burrying the dung equally, then forming the ground into beds a yard wide, with foot-wide aisles for the convenience of going in to raise, and set off and on the glasses, &c. The plants are then to be put in, allowing three to each glass, though the London gardeners often plant more; but two of the bed are enough to be left to come to perfection. At the time of planting them, a quantity of the hand-drawn, short, clear-shanked plants should be chosen, which being reeled, the line should be trenched along the middle of the beds, and at every yard distance, and three plants put in a triangle, six or seven inches apart; a little water being given afterwards, and the glasses put on, which should be kept close about ten or twelve days. When the plants have taken fresh root, prop them up on the sunny side, about three inches high, with forked sticks, pieces of brick-heap, or wooden prop fifteen inches long, three or four notches being made an inch or two above another to receive the edge of the glass, fixing them in the ground. The glasses, by this means, may be readily propped higher or lower, or on any side as occasion may require. During winter the glasses should be kept almost constantly over the plants, only keeping then lifted on the props in mild weather, on the warmest side, for the admission of air; but in fine, mild, dry days they may be set quite off, which if the plants be forward in growth, should be practised at all opportunities, lest by too constant glazing they be drawn up to flower in their small winter growth, and be rendered useless. The glasses must always be put over the plants at night; and when cutting winds or frosty weather prevail, they should be kept as close down as possible, and long litter laid down close about the lower part of each glass, raising it higher as occasion may require.

In their spring culture, they must be thinned out, about the beginning or middle of March, to one stout plant or two at most under each glass, though in large bell-glasses the market gardeners frequently leave more, for the sake of having the advantage of the glasses, to bring as many as possible to early perfection. The others should be planted out into another place, as a piece of rich, well-dunged ground, the plants being raised with the root of a towel, to preserve the fibres of the roots, being planted too deep and half dilated each way, water being given to settle the earth about them.

The plants under glasses should have the earth directly made good about them, and a little mould drawn up about their stems, continuing to cover them on the sides with the glasses, which must now be raised considerably on props, in proportion to the advanced growth of the plants, not omitting to let them have the benefit of the full air in mild days, and that of warm showers, by occasionally setting the glasses wholly off. But the glasses are to be continued occasionally over the plants until the middle or latter end of April, or longer, if it be necessary. When the plants are so far advanced that their leaves press against the glasses, they should be raised, by forming a border or ridge of earth round each

hole of plants, three or four inches high, on which ridge of mould the glasses should be set, continuing to prop up one edge occasionally as before, and according as the plants advanced in growth, raising them on every side three or four inches in height; as the length of the days and warmth of the weather now increaseth, the plants grow freely, and require as much free air and scope to grow in as it is possible to allow them; at the same time being careful to continue to expose them occasionally to the full air in fine days and moderate warm showers, always carefully defending them in the nights, and in cold rains or boisterous weather, until the weather becomes mild, and the plants are grown too large for the glasses; then they should, by degrees, be fully raised night and day, so that by the middle or latter end of April they may be wholly dismounted. At this period, if the weather be not hot and dry, moderate waterings will be of utility in promoting the growth of the plants, as well as increasing their size and strength. Towards the latter end of May some of the forwardest plants may probably flower, at which period they should be examined daily; and whenever a flower appears to be advanced in growth, it should be put down some of the inward leaves over the head, to screen it from the sun's rays, rain, and full air, in order to prevent it more white and close, as when fully exposed to the weather it generally changes the fine white colour to a yellowish hue, and occasions the head to open before it acquires perfection. The excellence of the cauliflower consists not only in size but in the whiteness, and compact curdy-like growth of the head; such as have a frothy, loose appearance being inferior in value. It is in its utmost perfection of growth when the outward parts of the head begin to open and expand, after which the whole flowers divide and shoots up to flower and seed.

In gathering or cutting cauliflowers, the flower head should, at first, be cut off with a few inches of the stalk, together with most of the surrounding leaves, which should be trimmed down nearly equal to the circumference of the head, especially when for present use; but if required to keep a few days, and such as are intended for market, should have the full leaves to continue, and be trimmed off as wanted. As the stalks of these plants never produce sprouts as in those of the cabbage kind, they should be moved as soon as the head is cut.

In the culture of the plants for the main summer crop, which have been preferred in frames or other places during the winter, in order to be planted out in the spring, it is necessary to observe that the plants should, during the winter, be every day in mild, open, dry weather, exposed fully to the free air by flowing the glasses entirely off, but they should always be drawn on again towards the evenings, and in excessive rains; though in a fine day, and the weather being mild, one end of the glasses may be raised on props three inches high, for the admission of plenty of fresh air, as the plants must not be kept too close in mild weather, as they would run up weakly and tender, or be forwarded too much in growth, and forced into small button-flowers. They only need protection from fruit and immediate rains while in the frames, their decayed leaves being pricked off, and searched for flags, which often attack the plants in frames and hand glasses. When the weather is very frothy, the glasses should always be kept close, to protect the plants; and, if very severe, the additional protection of covering them at night with dry, long litter or garden-mats, should be attended to, being laid round the outside of the frames.

In open, mild weather, as the spring approaches, the plants should be inured by degrees to the full air, by taking the glasses off entirely every day, and gradually leaving them
fully exposed at right in the more advanced part of the spring, to harden them for their removal into the places where they are to remain. From the latter end of February to the beginning of April, according to the weather and condition of the plants, all those which have been wintered either in frames or other ways should be planted out where they are to remain. An open spot of the bed ground should be chosen for this purpose, which should be previously dunged, and dug over, as directed for the early crop; the plants being put in by a line, two feet and a half distant every way, watering them at planting, and in dry, warm weather, repeating it two or three times, till they have taken fresh roots.

In planting this crop, it is sometimes the practice of market gardeners, who have occasion to make every advantage of their ground, to bow a thin crop of Radish and spinach between the rows of cauliflower plants; but the practice is not much to be recommended. In May and June, when the plants have attained considerable growth, the ground should be well hoed, to cut down all weeds, drawing earth about the stems of the plants; and when the latter month proves very hot and dry, occasional waterings may be of great utility, before being formed round the plants for that purpose.

In July this crop will be in full perfection, continuing in succession until the middle of August, when it will be succeeded by the late summer crop.

In order to the culture of the late summer crop, it is necessary to raise a proper supply of plants in spring, to be planted out in April or May, to arrive at perfection in August and September, in time to succeed the autumn raised crops. The feed for this crop may be sown any time in February, but not later than the third week in March; and, in order to forward the plants as much as possible, it is proper to cover them with a flender hot-bed, making from one light box eighteen or twenty inches in depth, of hot dung, covered with light, rich earth, four or five inches in thicknes. The feed should be sown on the surface, and covered a quarter of an inch deep with fine mould; the glass being then put on occasionally, and light sprinklings of water given, raising the glass daily for the evaporation of the steam and admission of free air. The plants will rise in a few days, at which time admit the air freely, by tilting the glass, and by taking it wholly off in fine warm days, and when there are moderate showers. In dry weather, give frequent light waterings. When the plants have leaves an inch broad, prick them out; and if some of them are put upon another moderate hot-bed, it will forward them considerably. From the end of April to the middle of May, some of the forwarded plants may be fit to plant out, which should be in an open spot of rich, well-dunged ground, as in the former crops, and in dry weather they should have frequent waterings, till they have taken good root. The necessary culture afterwards is only occasional hoeing to destroy weeds; and when the plants are somewhat advanced in growth, drawing the earth about their root-toms.

In the culture of the Michaelmas crop, some feed must be sown about the middle of May, on a bed of common earth; and when the plants have leaves an inch or two broad, they should be pricked out three or four inches asunder, to remain until the middle or latter end of July, then planted out as in the other crops, supplying them occasionally with water till rooted. They begin to shed heads towards the end of October, which will continue a great part of December, or sometimes in mild weather till Christmass. But this crop depends greatly on the state of the autumn after Michaelmas, which, if moderately dry and warm, tolerably large, handsome cauliflowers are often produced in November; but if wet and cold, the heads are mossy, small, irregular, and ill-coloured.

The method of culture in the broccoli kind.

This is another supposed variety of the common cabbage, which has different sorts, that, in their growth, habit, and edible parts, much resemble the cauliflower; all of them forming roundish heads in the centre of their leaves, composed entirely of a compact collection of numerous buds or ends of advancing florets.

They are annual-biennial plants, as they attain perfection in the same year, in the early town crops; but in the later sowings, first all the second season, when, after producing heads, they shoot up into stalk, ripe, seed, and wholly perish.

They are cultivated principally for autumn, winter, and spring use, thence being the reasons of their production in the bell perfection, being obtained in the different crops, by a spring and summer sowing in March, April, and May; those of the former months generally furnishing heads in autumn and winter, and that of the latter principally after Christmas, and all the spring months, in which they are commonly rather superior to the foregoing in the production of larger and more perfect heads. They are so hardy as to rebind the cold of an ordinary winter, though very severe frost often affects such as are weak, or grow in exposed cold soils, especially the sort called cauliflower broccoli. The chief sorts and varieties are the early-purple, which is a moderate growing darkish green plant, producing smallish purple heads, but earlier by a fortnight or more than the others; and of which there are the purple, the green, and the blue, often arising from seed of the fame plants. This sort is proper for the fall crop, which, if sow in the latter end of March, or more generally in April, and a succussion crop in May, and planted out in June and July, comes in for use from Michaelmas till Christmas; and when their heads are gathered, the stalks produce plenty of fine sprouts.

The late purple is a large robbly-growing darkish green plant, producing a large purplish head like a cluster of buds, being generally much larger, and more perfectly headed than the former sorts, and very delicate eating; of this there are the common purple headed, the dwarf purple, the blue broccoli, the brown broccoli, the green broccoli, and the yellowish broccoli; all of which frequently rise from the same seed, though of the true purple kind is superior both in size and perfection of heading, as well as delicacy of eating; and with care in fowing the seed, the sorts may be continued. This and all its varieties, by sowing in April, May, and beginning of June, and planting out the plants in July and August, may be obtained for use from about Christmas until the beginning or middle of May, but they are always in the greatest perfection, in regard to size, in February, March, and April; and after the main head is cut, the stalks produce abundance of side sprouts, or sprouts, terminated by small heads, which eat as sweet and tender as the principal ones. The white, or cauliflower broccoli, is a curious variety. The plants are of robust growth, and lightish green colour, each forming a close white head in the centre, sometimes as large as a middling cauliflower, and greatly resembling them in every part of growth, and for delicacy of eating, they are equal to the finest summer cauliflower. This sort admits of no varieties, except in degrees of whiteness, though the whitest generally allumes somewhat of a yellowish hue. By fowing the seed in March, April, or May, and planting out the plants in June, July, and August, may be obtained heads for use all winter and spring; but those that appear about March, and beginning or middle of April,
April, are considerably the largest and fairest heads. The black broccoli is a tall growing plant, of a blackish green colour, which for the most part produces smaller and less perfect heads, being somewhat open and feely like, but possesses the property of being so hardy as seldom to be injured by the severest frosts. There are of this black or dark-headed, the brown and the blue, all sometimes from the same seeds. They are proper for cultivation to stand the winter by way of reserve to serve for spring use, sowing the seed early in May, and planting out the plants in June, and beginning of the following month. All the different sorts or varieties are raised from seed sown in the open ground. The principal season for sowing the main crops of all the varieties, is March and April for the autumn and winter productions, and May and the beginning of June for the principal successive crops to come in for the spring supplies. Some may be occasionally sown to early as February, or beginning of March, of the cauliflower broccoli, as also any of the purple kinds, in order to obtain an earlier autumn production of small heads in the latter end of August, or beginning of September, and beginning of October. The feed should be sown in an open exposure, where the plants rise much stronger than on narrow borders under walls. Each fort should be sown separately, moderately thick on the surface, and raked in lightly; the plants appear in ten or twelve days, occasional waterings being given them in dry weather; and when the plants have leaves an inch or two broad, it is proper to prick them out in a nursery bed three or four inches apart, giving them water as soon as planted, and occasionally till they have taken root, in which bed let them remain a month or six weeks, where they may acquire due strength; by this means they are short, and of robust growth, and will be considerably better prepared for transplanting where they are to stand, than those which remain in the feed bed. The time of transplanting them where they are to remain, is June, July and August, and beginning of September, according to the time they were sown, or are designed for use. The plants should have an open situation, and as good ground as the garden affords; which, if it have the addition of dung, will be advantageous, digging it in neatly one good spade deep, and directly putting in the plants, for which work a moist time is beneficial. They are to be planted in rows two feet and a half asunder, and two feet distant in the lines; but for those that are planted late in August and September, two feet at most are sufficient, and eighteen inches distant in the row. As soon as planted, they should be watered; and if dry weather prevail, the watering should be repeated every other day, till the plants have got root. After the plants have taken root, their further culture is to keep them clear from weeds, by hoeing the ground occasionally; and when they have advanced a little in growth, to draw some earth, or hoe about their stems, which, if repeated once or twice, will be of great advantage in promoting their growth. In gathering broccoli for use, attention must be had that the heads have attained their full growth, but they should be cut while they remain green, and before they begin to divide, and assume a feely-like appearance, and with about six inches of the main stalk to each head, as the upper part of the stalks eats exceedingly sweet and tender, but, previously to its being dressed, it must be peeled, or dwelled of the outer rind.

Saving feed in all the sorts. In order to have good and perfect feed of any of the above sorts of plants, some of the best of each kind should be selected, and left to run up to feed. In the cabbage fort, this is effected either after their heads have been cut, or by letting them remain without being cut. In the first way the items which have the

strongest roots may be left to feed where they stand, or be planted up to the necks in good earth in an open sunny exposure in the autumn, or beginning of winter; and in the latter, the same methods may be used. And when the plants have feeded, great attention should be bestowed to support them well with manure till the feed is perfectly ripened, which is generally the case about the end of July, or in the following month.

Where feed of the different varieties is wanted, the plants for this purpose of the different sorts should be cultivated at as great distances as possible from each other, in order to continue them perfect without degenerating.

When the feed begins to ripen, it should be gradually collected by cutting off the ripened items, to prevent the birds from devouring it. These, after they have been exposed a little to the sun, may be threshed to get out the feed, which sufficiently dried, should be put up in bags, and marked.

In the cauliflower kinds, some of the best and most perfect plants of the cauliflower crop should be left to run up to feed in the situations where they stand, being supported as in the cabbage fort, and occasional waterings given when the feed is dry, to prevent the mildew. The feed should be collected and managed in the same manner as above. It is mostly in a late to be gathered about September. Fresh feed should be gathered annually, as it cannot be depended upon when old.

In the broccoli kinds, the best plants of the early spring crops must be selected, and left to stand with their heads perfect, the side shoots being only taken off. The feeding plants of the different varieties should be at considerable distances from each other.

Method of culture in the turnip kind. All the varieties of the turnip are annual-biennial; as if sown early in spring they attain perfection, run up to flower, ripen feed, and totally perish the same year; and when sown in summer and autumn, they also attain perfection the same seasons, and stand without running to stalk till next spring; then wholly run up for feed, and finally terminate their growth in the autumn following.

The sorts chiefly cultivated are the early Dutch turnip, which is an oblongar, moderate-sized, handsome, white turnip, coming early to perfection, very sweet and tender when young, and a very fine garden turnip for the early and summer crops; though when it is old, it is apt to become stringy.

The early white fleshy turnip is a round, moderate-sized, neat, white turnip, that comes in early, and is very good in its young and middle growth. It is very proper for garden use as an early and first general crop. Of this sort there are the large later turnip, and the early red fleshy turnip.

The white round turnip is globular and large, being proper for the garden and the field, to succeed the two former sorts.

The green topped turnip is large, round, and remarkable for having its outer coat green at top, and a great part of the root growing above ground. It is excellent for a general crop in gardens, to draw for the table when middling growth; and also valuable in the field.

The red topped turnip is large, and of a globular form, having its outer skin red at top. From its very large size, it is also adapted to field culture.

The yellow Dutch turnip is moderately large, and frequently oblong, the skin and flesh being of a yellow colour.

The oblong white turnip is large, and strikes considerably into the ground.

The
The tankard turnip is large, oblong, and cylindrically, of quick growth, the root generally standing above ground. It is a good field turnip, but not proper for the garden.

The large Norfolk turnip is large and round, but mostly cultivated in fields.

The hardy Russian turnip is middle sized, dark colored, very hardy, and continues long in spring without running. It is proper for sowing as a moderate garden crop for winter and spring.

The long rooted French turnip is long, small, and sparsely rooted, but of little merit. The purple turnip is round, small, early, and purple coloured, but grown mostly for curiosity. In general use the early Dutch turnip is the best for the early and first general summer crops, as it generally arrives to perfection a fortnight, at least, sooner than most of the other sorts; and, by an early sowing in spring, may be obtained by the beginning of May. Next to this is the early white turnip for an early and first general summer crop, and the common round white turnip to sow for a main summer crop, all of which may be continued in perfection the whole summer and autumn, by performing three or four different sowings from March until July, to as to have crops regularly succeeding one another.

For the autumn and winter crops the white round, the green topped, and the red topped kinds, are the hardiest. From their magnitude they are to be preferred to all others for field culture.

These roots may be obtained for use eight or ten months in the year, as from about the middle of May till the beginning or middle of March; after which time they begin to shunt into stalk for feed.

The method of propagation in all these sorts, is by sowing the feed in situations where the plants are to remain, as they do not admit of being transplanted with success. The common season for sowing is any time from the beginning of March, until the latter end of July; but to have a long and regular succession, it is necessary to make four or five different sowings at proper intervals, from the latter end of February till the middle of August. The most proper soils for the culture of this root are those of the more light and mellow kinds; as on strong land the roots frequently acquire a stringy texture, and rankness of taste. In garden culture, the necessary space of ground to sow at a time, for the supply of a family, is from about two to six, eight or ten rods, according to circumstances; the proper quantity of feed for each sowing may be from one to two or three ounces; but for large field crops, the common allowance is about two pounds to an acre. The ground should be prepared for the feed by digging it well over, one furrow deep, and breaking it as fine as possible on the surface, the feed being sown while the ground is fresh shrewed, especially when there is hot or dry weather. A moist season for sowing is of great importance. In this culture the feed is mostly sown broad cast, scattering it moderately thin, with a regular cast and evenly spreading hand, afterwards raking it evenly in. It is of much advantage, when the weather is hot, to steep the feed a few hours in water before it is sown, as by that means it germinates more quickly, and there is less danger of the plants being destroyed by the fly. See FLY and TURNIP.

In the after-culture of the turnip, all that is requisite is, when the plants have two or three leaves, or are about a month old, to thin them out to fix, eight, ten or twelve inches distance, and clear them from weeds, which is most effectually done by the hoe, and is best performed in dry weather. At the same time the weeds should be removed, and the surface earth well tilled, as this will prove highly beneficial to the growth of the crops. The very earliest crops need not be thinned to more than five or six inches distance, especially if it is intended to begin drawing the roots as soon as they begin to turnip. In three or four weeks after hoeing, the plants will mostly begin to turnip; and in five or six weeks some may be fit to draw for use. In the markets these roots are exposed clean washed, and neatly bunched up, in number from twelve to fifteen or eighteen, according to their size in each bunch, and disposed of to the retailers by the dozen of bunches.

The field culture of these plants, and their different applications in the feeding and supporting different sorts of live stock, will be given hereafter. See TURNIP.

Saving Feed. To obtain good feed, some of the best roots of the autumn and winter crops must be left to run up to stems, which mostly produce ripe feed about July, or the following month. It should be collected and managed in the same manner as in the cabbage sorts. And in order to obtain feed of the different varieties as perfect as possible, the plants of such varieties should be at considerable distances from each other.


**Brassica Monenfis**, Hudfon and Withering. See Symbrium monenfe.

**Brassica Muralis**, Hudfon and Withering. See Symbrium tenuifolium.

**Brassica Spinosa**, C. Bauh. Pin. See Bunias Spinosa.


**Brassicae, in Entomology, a species of Chrysomela**, that inhabits Germany. The prevailing colour is deep black; wing-cases pale, telfaceous with all the margin, and a band in the middle black. Fabricius, &c.

**Brassicae, a species of Staphylus**, of a ferruginous colour; head and body black; wing-cases punctuated; antennae very thick and hairy. Scothol. Found on the cabbage in Europe.

**Brassicae, a species of Phalene (noctua)**, the wings of which are clouded with cinereous; a black hook connected with the first spot. Linn. Fabr. &c.

**Brassicae, the species of Aphis, that injests the common cabbage. Linn. Fabr.**

Obi. It is Pediculus brassicae of Frianch.

**BRASSICARIA, a South American species of Phalena, of the noctua faction; the wings of which are indented, variegated, and marked with a common gold telfaceous spot; posterior wings white.**

**BRASSICARIA, an insect of the genus Musca, the colour of which is black: abdomen cylindrical; second and third segment rufous. Fabr.**

This is Musca cyanobractis of Degeer. A variety of this species is mentioned by Fabricius, which has the abdomen ferrugineous, with a black dorsoal line at the base. Donov. Brit. Inf. &c.

**BRASSIDELIC ART, a term used by Phacelia, to denote a method of curing wounds by the application of the herb brassicaea, or ophryscoenia, on the fresh wound.**

**BRASSILIS, in Entomology, a species of Papilio (Helenion), that inhabits Surinam. The wings are fuscous; anterior ones spotted with yellow; posterior pair radiated beneath
BRATENBRUNN, Széles-Kut, in Geography, a walled and well-inhabited town of Hungary, in the circle below the Danube, and district of Odenburg, under the jurisdiction of the Esterhazy family.

BRATHYS, in Botany (θάρης, or θάρης, the name of a plant in Dioscorides), a genus instituted by Linnaeus the son for a plant found by Mattis in New Granada, and taken up from him by Schreber (937), Jussieu (254), and Mr. Murtyn, but referred by Dr. Smith (Plant, icon. 41.) to the genus _Hypericum_, in which he has been followed by La Marec, Befc, and Wildenow. See _Hypericum_ Brattys.

BRATSKOIV, in Geography, a town of Siberia, in the province of Irkutsk, and the circle of Ilisim, on the river Angara; 140 miles N.E. of Nihune-Udinka.

BRATSKOW, or BAKOW, a town of European Turkey, in Walachia, situated in a fertile and pleasant country, and the residence of a Roman Catholic bishop.

BRATTELEN, a plain of Switzerland, near Basel, where, in the year 1444, 1500 Swiss withstood the whole army of France, consisting of 30,000, till they were all cut to pieces, except 16 who escaped, and 39 who were found alive on the field of battle. See Basel.

BRATTLEBOROUGH, a considerable township, and port town of America, in Windham county, Vermont; having 1568 inhabitants, seated on the west bank of Connecticut river, about 25 miles E. of Bennington, 61 N. of Springfield in Massachusetts, and 311 from Philadelphia. N. lat. 43° 52'.

BRAVA, one of the Cape de Verde islands, on the coast of Africa, the land of which is high and mountainous, producing, however, oranges and lemons in great abundance, and furnishing excellent wine. The inhabitants are somewhat more than 5000, and they cultivate maize, gourds, figs, water-melons, and potatos; they also breed hogs, cows, fables, goats, and hogs. This island yields a considerable quantity of salt-petre, and the mountains are supposed to be rich in metallic ore, especially copper, as there are several vitriolic springs. The coal abounds with salt. The circuit of the island is about 4 leagues; and it is about the same distance W.S.W. from Fuego. We learn from Sir George Staunton's account (Embassy to China, vol. i. p. 136), that this island is a better and safer place for ships to be supplied with water and provisions than the island of St. Jago, as it has three harbours, one called Puerto Parno on the east side, from which vessels must warp, or be towed out by boats; the Puerto Pijendago to the west; and the Puerto Pieren to the north, which is the best for large ships, and into which runs a small river. N. lat. 14° 54'. W. long. 24° 42'.

BRAYA, a sea-port town of Africa, on the coast of Zanguebar, being the capital of a small republic or aristocracy, founded within the kingdom of Magadado, and at its southern limit, by seven Arabian brethren, who fled hither from the tyranny of their king Jachah, one of the petty monarchs of Arabia Felix. Here they found a convenient and delightful situation, founded on each side by a river, whence some have affirmed it to be an island. This district does not extend far from the coast; as it is very subject to the current of the capital, which is situated on a bay, formed by the mouth of the northern branch of the river, about the distance of somewhat less than one degree from the equator. Bray, which is now a small town, was once large and populous, and carried on a considerable trade in gold, silver, silk, cotton, and other cloths, elephants' teeth, guns, and other drugs, particularly ambergris, with which this coast abounds.

The houses were large and well-built, in the Moorish style; and the town was strong and fortified, and accounted one of the most celebrated and frequented ports on the Indian coast. The people were mostly Mahometans, but under the protection of the kings of Portugal, to whom they annually paid a small tribute. This payment, however, they relieved; upon which Tristam de Cunha, admiral of the Portuguese fleet, bound for India, having set on shore at Melinda three ambassadors sent by king Fanmadd to the emperor of Abyssinia, proceeded to Bray, and, about 200 leagues northward of Melinda; and, after some previous negotiations, assaulted the city. After a severe conflict between the besiegers and the garrison, consisting of 1000 men, the latter retreated into the city, and flung the gates against the enemy. The siege was continued, and the city was at length taken and plundered of a large and valuable booty. Many of the besieged were slain and wounded, and many taken prisoners; but most of them were released. The Portugueze, on this occasion, perpetrated many atrocious acts of cruelty, and Cunha, having plundered the city, set it on fire, and it was quickly reduced to ashes. After this Bray became tributary to its destroyers; but it was never able to recover its primitive grandeur and liberties. Bray appears to have been the Effia of Ptolemy, which was only 1 degree from the line. N. lat. 9° 45'. E. long. 44° 37'.

BRAYA, See Pareira Brayu.

BRAVA, in Geography, a town of Portugal, in the twelfth route of Antonio de Teixeira's itinerary; supposed to be Ludlow.

BRAULIO, in Geography. See Brailo.

BRAULS, in Commerce, Indian cloths with blue and white stripes; otherwise called "turbans," because they serve to cover those ornaments of the head, particularly on the coast of Africa.

BRATNO, in Geography, a town of Bohemia, in the circle of Koniggratz, belonging to the abbey of Benedictine of the place.

BRAWA, a fortified town of Germany, in the circle and duchy of Bavaria, seated on the river Inn. It was formerly the residence of the elector palatine of Bavaria; but ceded to the house of Austria by the treaty of Tilslten in 1779; 8 leagues S.W. of Pfaffenhofen. N. lat. 48° 10'. E. long. 12°.

BRAVNECK, or BRASSGEG, a town of Germany, in the Tyrol, and bishopric of Brixen; 10 miles N.E. of Brixen.

BRAUNER-GEYER, in Ornithology, Cramer's name of the Austrian kite, _filis affrinicus_.

BRAUNER MAINGEREYER of Cramer, is the black kite, _filis orta_.

BRAUNFELS, in Geography, a town of Germany, in the circle of the Upper Rhine, belonging to the count of Solms.
SALMS, with a castle fortified in the ancient manner; five miles south of Wetzlar.

BRAUNSBERG, a town of Prussia, in the bisphric of Ermeland, founded on the Paffarge, which, at a little distance, discharges itself into the bay called Fleichha-fat. It was built in the year 1275, and derives its name from Bruno, Bishop of Prague. In 1601, the inhabitants expelled the Polish garrison, and afforded an asylum to the bishop of Ermeland, who had declared for the knights of the Teutonic order. It was formerly one of the Prussian great cities, and sent representatives to the senate or council of state; but it is now under the jurisdiction of the bishop. It is large and populous, and carries on a good trade. Brandenburg is divided into the Old and New Town: 32 miles S.W. of Königsberg. N. lat. 54° 23'. E. long. 21° 57'.

BRAUNSBERG, a town of Germany, in the circle of Wolfsphalia, and county of Wied Runkel; 4 miles N.E. of New Wied.

BRAUNSDEF, a town of Germany, in the circle of Upper Saxony, and circle of Erfurt; 11 miles N.E. of Erfurt. Also, a town of Germany, in the archdeacony of Lüneburg; 6 miles E. of Meide.

BRAUNSWEIG, a town of Germany, in the circle of Lower Saxony, and duchy of Hanover, serving as a fortress to Kiel, and one mile north from it.

BRAY, John, in Biography, a native of Caflk, practised medicine at Salamanca, the latter part of the 16th century, with distinguished reputation; and he also professor in medicine there, and much reared to and esteemed by his pupils. His works are: "De hydropothia natura, causis, atque medenda," Salam. 1571, 8vo.; "De saporum et odorum differentia, et causis," 1583, 8vo.; "De curandi ratione per medicamenta purgativa exhibitione," 1588, 8vo.; "De simplicium medicamentorum decets," 1592, 8vo.

He also published, agreeably to the fashion of the times, commentaries on the works of Galen and Hippocrates.


BRAY, Cadavid, of Aguilas del Campo, in Old Cadice, physician to Philip IV. and to the Inquisition, took his degree of doctor in medicine at Valencia, where he taught medicine and surgery the middle of the 17th century; and was author of "Revolutionum medicorum circa universam totius philosophiae doctrinam," 1649, Lugduni, fol.; "Constitutiones medicorum et tyrocinium practicum," Colonii, 1671, 4to.; "Opus medicinale, tomus tertius," Lugduni, 1674, fol. The author treats in these volumes of the physiology and the pathology of fever; of the effects of bleeding, purging, and of sudorifics; of the use of the Peruvian bark, lately introduced into practice, which he commends; and, among his observations, he gives an account of the disease and death of Philip IV. of Spain. Haller. Bib. Med.

BRAVO RIO, called also Del Norte, or of the northern star, the principal river of Spanish North America, which, as far as its sources can be conjectured, has a course of about 1000 British miles; but its whole circuit probably exceeds that of the Danube. It discharges itself into the gulf of Mexico. N. lat. 25° 40'. E. long. 97° 30'.

BRAVO! It is a word which needs no explanation. It is an Italian exclamation of applause, which all Europe has adopted.

If, in a theatre, the Italians applaud, a musical composition, and dislike the finger, though they hiss the performer, they afterwards cry out bravura pura il maschio; and on the contrary, when they hiss the composer, immediately after they discriminate, if the finger is a favourite, and exclaim bravura Marcovecchio, or bravura le bruti; and if a composer is a plagiarist from the well-known works of a favourite author, the critics cry out bravura Paffaleo! or bravura Gervaseo.

BRAVONIA, in Antiquity, a city held every fifth year in honour of Diana, summoned Brevonwia from Brauron, a village near Athens, where the famous statue of that goddess, brought from Seythia Taurica, was preferred till it was taken away by Xerxes.

The ceremony of the Brauvania was managed by ten men, from their office called "the house of the victor;" the victim offered was a goat, and it was customary for certain men to sing one of Homer's Idals during the service; other minstrels at the solemnity were young virgins, from five to ten years of age, habited in yellow, and consecrated to Diana, under the denomination of Agens, i.e. bears, which they derived from this circumstance. A bear, having become tame and tractable, was admitted to eat and play with the Philene, the inhabitants of a borough in Attica; but a young maid being too familiar with it, the bear tore her to pieces, and was afterwards killed by the brethren of the damsel. Hence a fatal pestilence ensued, for saying which an oracle advised them, in order to appease the anger of Diana, occasioned by the defilement of the bear, to consecrate virgins to her in memory of it. The Athenians obeyed the mandate of the oracle, and enacted a law, that no virgin should be married till she had undergone this ceremony. Potter. Arch. Græc. lib. ii. cap. 26.

BRAVUM, in Ancient Geography, a town of Spain, placed by Ptolemy in the Taragonensia, in the country of the Murbeget.

BRAVURA, Ital., is a musical term, as Aria e Bravura, implies a style of air, with which in modern times Mifs Davies Ingelina, the Gabriel, the Aguijar, Madame Le Brun, Madame Mara, and Mrs. Billington, have made us perfectly acquainted. M. Gignac, in the Encycl. Meth. has described and apologized for execution, with much taste and feeling. "We admire (says he) the warbling of birds, in tones which we cannot appreciate or understand; the nightingale, blackbird, thrush, canary bird, and lark, charm us with their divinities; the measured intervals and varied melodies exquisitely performed by sweet and flexible voices, supported and enriched by harmony, may afford a delight of a superior kind, in human tones, which can invitate themselves into the innumerable recceves of the heart, to which words can never penetrate, however impregnated, or tuned by numbers."

BRAUWEILER, in Geography, a prefecture and abbey of Germany, in the circle of the Lower Rhine, and electorate of Cologne; 7 miles W.N.W. of Cologne.

BRAUWER, or Brouwer, Adrian, in Biography, a Flemish painter of great eminence, was born of obscure parentage at Oudenarde, as some say, or, according to Houbraken, at Haarlem, in 1608, and obtained instruction in his art from Francis Hals for the profit of his labour. In this situation he manifested such superior powers, that Hals employed him in a garret apart from his other scholars, affixing to him hard labour and a scanty diet, and selling his performances for high prices. From this state of close confinement and harsh treatment he eloped, and went to Amsterdam, where his works were known and esteemed. Having become master of 100 ducatons, which he received for a single piece, he became frantic with joy, and spent it at a tavern in ten days. From this time his usual abode was a public house; and he worked only when he was urged to it.
it by necessity. As soon as he had finished any piece, he offered it for sale; and if it did not produce a ripulated price, he burnt it, and began another with greater care. Possessing a vein of low humour, and engaging, both sober and drunk, in many droll adventures, he removed from Amsterdam to Antwerp, where he was arrested as a spy, and committed to prison. This circumstance introduced him to an acquaintance with the duke d’Arenberg, who, having observed his genius, by some flight sketches drawn with black lead while in custody, requested Rubens to furnish him with materials for painting. Brouwer chose for his subject a group of soldiers playing at cards in a corner of the prison; and when the picture was finished, the duke himself was astonished, and Rubens, when he saw it, immediately pronounced that it was the performance of Brouwer, and offered for it the sum of 1,000 guilders. The duke, however, retained it, and gave the painter a much larger sum. Upon this, Rubens procured his release, and received him into his own house; but, uninflected by gratitude to his benefactor, he flew away, and returned to the scene of low debauch, to which he had been formerly accustomed. Being reduced to the necessity of flying from justice, he took refuge in France; and, having wandered through several towns, he was at length contrained by indigence to return to Antwerp, where he was taken ill, and obliged to seek relief in a hospital; and in this asylum of self-procured poverty and distrest he died in his 32d year. Rubens lamented his death, and procured for him an honourable interment in the church of the Carmelites.

Such were the talents of Brouwer, that, in the course of a dissipated life, he attained to distinguished excellence in the style of painting which he adopted. His subjects were taken from low life, and copied after nature; such as droll conversations, feasts, taverns, drunken quartels, boors playing and disputing at cards, or barbiers dressing the wound. His expression, however, is lively and characteristic; the management of his colours so purring; and truth was united with exquisite high finnishing, correctness of drawing, and wonderful transparency, to such a degree, that his paintings are more valuable, and afford higher prices, than many works of the most eminent masters. Some of his best works are found at Duffield. His drawings are dispersed in the various cabinets of Europe. Several of his designs have been engraved; and we have some few etchings by himself of subjects usually represented in his pictures, which are signed with the initials of his name, H. B.; Adrian being spelt with an H. D. Pilkington. Strutt.

BRAUX, in Geography, a town of France, in the department of the Artois; 5 miles N. of Charleville.

BRAWALLA. See BROWALLA.

BRAWALLA, in the Culinary Art, signifies the flesh of a boar, boned, rolled up, or collared, boiled, and lastly pickled, for the winter’s use.

The method of preparing it is as follows:—After the flesh has been sprinkled withsalt, and the blood drained off, it is to be salted a little, and rolled up as hard as possible. In this state, it is to be boiled in a copper or large kettle till it is so tender as to admit of a daw’s being run through it; and then let by thoroughly to cool. When it is cold, it is to be put into a pickle, prepared by adding to every gallon of water a handful or two of salt, and as much bran of wheat; boiling these ingredients together, and then draining the bran as clear as possible from the liquor. When the liquor is quite cold, the barrel is to be put into it.

Brawn is made only of the sturrier, without the legs; the oldest boars are chosen for this use; it being a rule, the older the boar, the more honey the brawn.

There is also brawn of pig, which is made by salting, drawing, and boning the beast whole, except the head; then cutting it in two collars, soaking it in brine, seasoning, rolling, putting it into a cloth, binding it up, boiling it, and when boiled, hooping it up in a frame.

BRAXEY, in Veterinary Science, a disease of sheep, which is distributed into the dry, colitive, and watery braxey. The dry braxey seems to be cold and inflammation in the bowels, owing to the taking in with the food some hoarfrost, or to a change in the blood arising from the removal of the animals from a poor to a rich keep. The colitive braxey is merely the cough, from obliterated intellines. The watery braxey is supposed to be the "red water," as it arises from the usual cauter, and is attended with the familiar symptom of suppuration of urine. In this latter case, instead of using turpentine and other strong duretices, the surest and safest course is to puncture the bladder, without wounding the guts, and thus to draw off the urine, afterwards covering and healing the wound.

BRAY, Sir Reginald, in Biography, an English politician and ingenious architect of the 17th century, was the second son of Sir Richard Bray, one of the privy council to King Henry VI.; and defended from an ancient family, who accompanied William the conqueror into England, and flourished in the counties of Northampton and Warwick. In the first year of Richard III., Reginald obtained a general pardon, probably, on account of the part he had taken from personal and hereditary attachment to Henry VI.; and he was recommended as a person of fober and prudent policy, to those who favoured the advancement of the earl of Richmond, afterwards king Henry VII., to the throne. In the service of this prince, both before and after his accession, he was ready and active; and his zeal was recompened by a variety of honourable appointments. He was made a knight banneret, probably at the battle of Bosworth, a knight of the bath at the king’s coronation, and afterwards a knight of the garter. He was also confable of the castle of Oakham in Rutlandshire, joint chief justice with lord Fitzwalter of all the forels south of Trent, high treasurer, chancellor of the duchy of Lancaster, high steward of the university of Oxford, and a member of the privy council. In the 16th year of the king’s reign, he had a grant for life of the isle of Wight at the annual rent (says Camden) of 500 marks. He received many other marks of the royal bounty and favour; and died August the 5th 1503, poiffelled of a very great estate; and his remains were interred in the chapel at Winfort. Withstanding the wealth he acquired, and the activity with which he officiated as minister during 17 years, under a sovereign, who was infamous in his temper, and extorted large sums of money from his subjets, historians concur in giving him an excellent character. They represent him as the father of his country, a sage and grave person, a fervent lover of justice, and one who would often admonish the king when he did any thing contrary to justice or equity. His piety and charity were also conspicuous in the usual exercitics of the times, in which he lived.

Of his skill in architecture, he gave sufficient evidence, in building the chapel of Henry VII. in Welfmum abbey, which was conducted under his direction, and in completing the church of St. George at Windsor, to which he was a liberal benefactor. As he died without issue, he bequeathed the bulk of his fortune to Edmund, the eldest son of his younger brother John, who was summoned to parliament in 1529, as baron of Eaton Bray; and he also left considerable estates to Edward and Reginald, younger brothers of Edmund. From Edward, the manor of Shire Vachery and
and Cranly in Surry, which was given to Sir Reginald upon the execution and attainder of lord Audley, defaced to the Rev. Geo. Bray, who published it in 1778. Reginald settled at Barrington in Gloucestershire, where the male line of that branch became extinct, about fifty years ago. Dr. Bray.

Bray, Thomas, a learned and pious divine of the 17th century, was born at Marton in Shropshire in 1636, and after finishing his school education at Oswestry, was admitted into Hart hall, in the university of Oxford, where he made considerable proficiency in those studies, which were adopted to the ecclesiastical profession, for which he was intended. Being under a necessity of leaving Oxford, on account of his circumstances, soon after he had commenced bachelor of arts, he entered into holy orders; and by his industry in discharging the duties of his profession, as well as by his exemplary behaviour, he obtained the patronage of lord Digby, who presented him to the living of Over-Whitacre in the county of Warwick, generously augmented for his sake, by the addition of the great tithes, and in 1667, to the rectory of Sheldon, which he retained till within a quarter of a year of his death. In 1683, he took his degree of master of arts in Hart-hall, Oxford. At Sheldon, he composed his “Catechetical lectures,” published in 1686, which were not only well received by the public, but the means of recommending him to Dr. Compton, bishop of London, who fixed upon him as a proper person for modelling the infant church of Maryland in America, and establishing it upon a solid foundation. In 1696, he was appointed commissary for this purpose, with a salary of £500 per annum. Determined on active and useful service, whatever present sacrifices might attend it, he intimated his readiness to accept the office, on condition of being encouraged and aided in providing parochial libraries for the ministers who were to be sent to the churches of this colony. This scheme of parochial libraries he extended to all the colonies and plantations in America and the West Indies, and also to the factories in Africa; and he connected with it another design, which was that of establishing lending-libraries in every deanery throughout England and Wales, out of which the neighbouring clergy might borrow books; and where they might have an opportunity of confuting them, with regard to all matters that pertained to literature in general, and to their own office in particular. The plan became popular, and many libraries were founded, both at home and abroad. With a view of promoting the utility of these libraries, and of directing the missionaries in the prosecution of their theological studies, Mr. Bray published two books, one entitled, “Bibliotheca parochialis, &c.” and the other, “Apologetic charity,” a discourse upon Daniel xii. 3: preached at St. Paul’s at the ordination of some protestant missionaries, intended for the plantations; to which is prefixed, “A general view of the English colonies in America, &c.” About this time, viz. in 1696, Mr. Bray took the degree of doctor in divinity, though his circumstances would hardly allow of the expense attending it; thinking that this title and honour would give authority to his advice, and serve to promote the benevolent purposes which he wished to accomplish. In 1698, he made some unsuccessful exertions in order to procure a public fund for the propagation of the gospel in foreign parts; but failing in his main design, his efforts were directed for the purpose of forming a voluntary society, which was afterwards incorporated by royal charter. See Society. Ever since his appointment to the office of commissary for Maryland, he had received no emolument from it; but he had expended his time and money in promoting those important objects, to which he was zealously devoted; and, therefore, some of his friends endeavoured to diffuse him from prosecuting his design of going abroad, and to accept of two valuable preferments which were offered to him at home, which were those of sub-almoner and the deanship of Aldgate in London. But persisting in his purpose, and finding that his presence was necessary, he set sail for Maryland in 1699, and arrived thither in March of the following year. He immediately applied to the object of his mission, visited the province, and took measures for the re-establishment of the church, which had been for some time in a very unsettled state. Having obtained a bill from the assembly for this purpose, he came over to England to solicit the royal assent; and, notwithstanding the objections that were urged by those who were to be thus compelled to contribute towards the maintenance of a clergy, from whose services they were to derive no benefit, he succeeded in procuring a law, framed according to his wishes. Dr. Bray, after his return in 1701, published his “Circular letters to the clergy of Maryland.” In 1705, he accepted the deanship of Aldgate, which was again offered to him; and, in 1712, he published his “MartYROLOGY, or papal usurpation,” full a work consisting of extracts from the treatises of celebrated authors, arranged and digested into a kind of regular history. He had provided materials for a second volume; but being obliged to lay aside the prosecution of his design, his martyrdomal memoirs, both printed and MS., were bequeathed by his will to Sion college. Such was the zeal of Dr. Bray for the conversion of the negroes in the West Indies, that he took a voyage to Holland to solicit William’s encouragement of the design; and on this occasion, he was introduced at the Hague to an acquaintance with M. d’Allone, whom he interested in the execution of his object, to such a degree, that he left a considerable legacy towards its completion. Dr. Bray, having met with great success in his establishment of parochial libraries, devoted much time to this business; and for the purpose of impressing the minds of those who are destitute of the ministry, with a due sense of the importance of Christian knowledge, he reprinted the excellent treatise of Erasmus, entitled “Ecclesiae.” In 1727, he made a casual visit to Whitchapel priory; and so much was he affected by the contemplation of the wretched state of those who were confined in it, that he exerted himself in procuring contributions for their relief, and that of other prisoners; and he represented their deplorable condition with such effect, as to induce the house of commons to institute inquiries, which were very important and beneficial. To the solicitations and exertions of Dr. Bray, always directed by a pious and benevolent spirit, many charitable institutions in the metropolis and in other places were much indebted, particularly the society for the reformation of manners, that for founding charity schools, and that for the relief of poor profligates. Having entreated the accomplishment of his various charitable and public spirited plans to proper managers, this good man, happy in the review of a life, that had been devoted to important and useful purposes, and animated by a well founded hope, with regard to eternity, closed his course of service, February the 15th, 1730, in the 73d year of his age. Mr. Whiston bears honourable testimony to Dr. Bray, of whom he says, “that he esteemed him, though not as one of the greatest abilities, as by far the most useful clergyman, and the most indefatigable promoter of religion, and of the pious designs and societies which commerce to it, he ever knew; that he always honoured and assisted him, both in the review of his catechetical lectures, and his many other charitable and Christian attempts; and, that he heard him complimenting himself near his
his death, with those numerous good works he had so heartily promoted.” “Dr. Bray’s opinion,” says one of his biographers, “that civilizing the Indians must be the first step, in any successful attempt for their conversion, is a proof of his good sense, and of the just ideas he entertained on the subject.” Biog. Brit.

Bray, Solomon de, a portrait painter, was born at Haarlem in 1597, or, according to Defoe, in 1570, and is reckoned among the good artists of his time. He died in 1664. Pikkington.

Bray, Jacob de, an historical painter, the son of the former, was born at Haarlem, and is said by Defoe to have died some weeks before his father, in 1664; but other writers affirm, that he was alive in 1680. He distinguished himself by his drawings, as well as by his paintings. At Amsterdam, there is a picture by this artist, in which David is represented playing before the ark; that is much commended. The colouring is so well managed, that it appears as fresh as if it had just come from the cabinet. His drawings on vellum and paper, finished in red and black chalk, are very fine and highly valued. Pikkington. Strat.

Bray, in Geography, a sea-port and poit town of the county of Wicklow, Ireland, situated on the confines of the county of Dublin, from which it is separated by a small river of the same name, that abounds with excellent trout. It has two fairs, at which are sold great quantities of fritze and flannel, with sheep and black cattle. Here are an old cattle, a church and chapel both newly built, and a barracks. In the neighbourhood are many fine feats that attract visitors; and it is also frequented for sea-bathing, and for drinking goats’ whey. Distance from Dublin, 10 miles S. by E. N. lat. 53° 15’. W. long. 6° 0’.

Bray-bank, a narrow bank of sand on the east coast of Ireland, opposite to Bray-head, at the distance of from six to seven miles from the coast, and extending about eight miles N. by E. The least water found on it was nine feet.

Bray-head, a cape on the east coast of Ireland, near the town of the same name, which is steep, and the highest land upon that part of the coast. It is 12 miles north of Wicklow-head, and 5 miles south of Dalkey, the fourth point of the entrance into the bay of Dublin. N. lat. 53° 12’. W. long. 6° 4’.

Bray for Seine, a town of France, in the department of the Seine and Marne, and chief place of a canton, in the district of Provins, 3 leagues S. of Provins. The town contains 2050, and the canton 10,582 inhabitants; the territory comprehends 2724 kilometres, and 24 communes.

Bray for Somme, a town of France, in the department of the Somme, and chief place of a canton, in the district of Peronne, 3 leagues W. of Peronne. The place contains 1662, and the canton 9645 inhabitants; the territory includes 1454 kilometres, and 20 communes.

Braye, a town of France, in the department of the Côte-d’Or, 2 leagues from Dijon.

Brazed, in Heraldry, the same as Brassed, is used to express such charges as are folded or interlaced.

Brazed, in Botany, See Cryptogamia Anthelmeia.

Brazed age is used by the poets to express the third age of the world. See Age.

Brazed, among Miners, is the standard by which the other clines are gauged, and is kept in the king’s hall.

Brazed silver, in Jewish History, one of the utensils of the court of the tabernacle, described in the 30th chapter of Exodus, and conveniently situated between the east end of the tabernacle and the altar of burnt-offerings. Neither its shape nor size is mentioned by Moses; but it was probably of considerable capacity, as it served for the use of all the priests to wash their hands and feet, before they performed their ministry. It is said (Exod. xxviii. 8.), that Moses “made the laver of brass, and the foot of it of brass, of the looking-glasses of the women, who adorned at the door of the tabernacle of the congregation.” Such were the ancient mirrors, made of polished brass or other metal: which gave but a dark or obscure image, in comparison of glass mirrors. Hence, it is said, we read (1 Cor. viii. 3.) of “seeing through a glass darkly;” or rather “in, or by a glass,” as a אָאַת signifies. Some have supposed, that an error has crept into the text, or an exchange of one letter for another like it, as of ד instead of ר and that it should be rendered, “he made the laver and its foot of a brass like the looking-glasses of the women that adorned about the door of the tabernacle,” by which we are to understand, that he made them either of the same metal, or that he gave them the same degree of brightness or fineness. And, if what an ancient father tells us be true, with regard to the Egyptian women, that they used to go into the temple with a looking-glass in one hand, and a timber in the other, it will serve to illustrate the practice of the Hebrew women’s wearing such an ornament when they came into the tabernacle. Tremell, in loc. Cyril. Alexander, de Adorat. in Spirit, &c. tom. i. 1. 2. p. 64.

Braze, or molten sea, an utensil in the temple of Solomon, for the fize and construction of which, see 1 Kings, chap. vii. and 2 Chron. chap. iv. The water contained in it served for the washing of the sacrifices, and of the priests and Levites, before they performed the several services assigned them; and for this purpose it was drawn out by pipes and conduits. It was filled with water by the Gibeonites, who were afterward called Nethinims.

Brazent serpent, a figure of the fiery serpent or saraph, which Moses was instructed to form and to elevate upon the top of a pole, promulgating the Hebrews, that all who were bitten by serpents, and should look towards this image, should be healed; as the event proved. Numb. xxiv. 9. Our Saviour compares the bringing up of this serpent on the pole to his elevation, or exaltation, upon the cross. John iii. 14. John xiv. 32. This brazent serpent was preferred among the Israelites till the time of HazëchIáh, who, being informed that the people paid a superstitious worship to it, ordered it to be broken in pieces, and by way of contempt gave it the name of “Nehuflan,” i. e. a brazent bowed or triform. 2 Kings, xviii. 4.

Braizer, an artificer who makes and sells pans, pots, kettles, and other kitchen utensils and braes were.

Intrant braziers, who go about with their tools and knapsacks, are called tinders; by the French, branches of the cobliette, chandelières au filet.

Brazil-wood, in Botany. See Cæsalpinia, and Brasil-wood.

Brazing, the soldering or joining of two pieces of iron by means of thin plates of brass, melted between the two pieces to be joined.

If the work be very fine, as when the two leaves of broken faws are to be joined, it is to be covered with beaten borax, moistened with water, that it may incorporate with the brass duit, which is here added; and the piece is exposed to the fire, without touching the coals, till the braes be observed to run. To braze with a full greater degree of neaty, they use a folder made of brass, with a tenth part of tin; or another, one-third braes, and two-thirds silver; or brass and rosin: observing, in all these ways of brazing, that
that the pieces be joined close throughout; the folder only holding in those places that touch.

The method of brazing, among smiths, farriers, &c. is by beating the two pieces, when hot, over one another; this is more properly called welding.

BRAZZA, so called from the town of Brazza, in Geography, an island in the gulf of Venice, about 10 leagues long, and 3 broad, near the coast of Dalmatia, opposite to Spalatro, and subject to Venice. N. lat. 43° 45', E. long. 16° 16'.

BRE, a river of Denmark, which runs into the North sea; 6 miles S. W. of Tondern.

BREA, a small island in the Pacific ocean, near the west coast of North America. N. lat. 16° 38'. W. long. 59° 1'.

BREACH, a cape on the south-west coast of Ireland, being the south-west point of Valentia island, in the county of Kerry. N. lat. 51° 50'. W. long. 16° 16'.

BREACH, in a general sense, denotes a break or rupture in some part of a fence or inclosure, whether owing to time or violence. The word is formed from the French brecière, which signifies the same; formed of the German brechen, to break.

Inundations, or overflows of lands, are frequently owing to breaches in the dikes, or sea-banks. Dagenham breach is famous; it was made in 1707, by a failure of the Thames wall, in a very high tide. The force wherewith it burst into the neighbouring level, tore up a large channel or passage for water a hundred yards wide, and in some places twenty feet deep, by which a multitude of subterranean trees, which had been buried many ages before, were laid bare. Phil. Trans. N.S. 325. p. 417.

Breach, in the Military Art, is an extensive aperture, gap, or opening made in any part of the works of a town, either by battering the walls with artillery or springing mines, in order to storm the place, or carry it by assult. They say, make good the breach, fortify the breach, make a bulwark on the breach, &c. To clear the breach, is to remove the ruins that it may be the better defended.

The ancients were not provided with means so effectual as our artillery to batter down the walls of fortified places. The catapult and balance, redoubtable as they were in the open field, or the attack of a camp, were not competent to this effect. With the Greeks, the Romans, and other nations of antiquity, it was necessary to advance close under the walls before they could make use of the ram, their principal instrument of assault. All the other operations of a siege; the construction of their aggeres or terraces, the moving turrets, the telluruses, galleries, and vines, were only directed towards this principal object, that of favouring the approach of the ram towards the town. So long as the besieged maintained themselves in possession of their walls, it was not possible to make use of this formidable weapon. Most of their machines, especially such as tended to avert the effect of the ram, were disposed upon the parapet of the front attacked; and mailers of their battlements, they called the besiegers with incessant showers of darts and arrows, large stones, entire beams, burning pitch, melted lead, and every kind of missiled arms. They directed their principal machines against the ram, whose force was useless the instant its equilibrium was disturbed. But as soon as the catapult and balance of the assailant had cleared the walls of the place, and the besiegers, protected by their terraces, had filled the ditch, no obstacle remained to prevent the application of the battering ram. Its effect was inevitable the moment the vibration of the machine was undisturbed and free. The place was then reduced to the last extremity; and if the garrison had rashly held out until the ram had struck the wall. "si amus marmur tetigisset," no capitulation was afterwards granted, unless upon the severest terms.

The ram generally approached the place under the protection of the telluroid, a kind of covered gallery, within which it was either sufferéd in equilibrio, or relied on a safe, and worked by a considerable number of hands. In this situation, no tower or wall of masonry, however thick, could for any length of time resist the tremendous shock which accompanied its blows. The ram, however, was not always the method used by the ancients to effect a breach. They sometimes employed their apparat, subterranean passages, or mines, which, having carried completely under the front of the place attacked, they sustained the walls by enormous beams, until the space undermined was judged sufficient, and then setting fire at the same time to all these beams, their fall infallibly brought along with it great part of the fortification, and opened a wide breach for the assailants to mount over.

Among the ancients, the art of defence, the moment that the besiegers had filled the ditch, planted their machines, and brought the battering ram up to the foot of the wall, bore no proportion to that of attack. Several means, however, were invented to prevent or lessen the effect of this last terrible machine, particularly at the siege of Platea, in the Peloponnesian war. The besieged made use of nooses or pincers, with which they caught the head of the ram, and either drew it up to the walls, or at least disturbed its equilibrium for a considerable time, and spoiled the effect of its stroke. They also made use of a large beam, hung horizontally, by heavy iron chains, to two immense wooden levers, planted upon the battlements. This, when they beheld the ram about to commence its action, they elevated to a great height, and letting it fall suddenly upon the machine, caufed the head of the ram to plunge, and thus considerably deadened, if not entirely destroyed, the impetuosity of its blow. Even when the breach was made, the diligence of the garrison sometimes provided the means of a new defence. During the siege, it was customary to build a new wall, in form of a crescent, behind that against which the enemy directed their principal efforts. This much disheartened the besiegers, who, when they flattered themselves with having overcome all resistance, and holding the town at their mercy, were thus often obliged to recommence the prodigious labour of their aggeres, vines, and other machines against the re-entering wall: a new labour equally difficult and dangerous, as in the process their flanks were laid open to the darts, stones, and other missiles of the enemy. The celebrated sieges of antiquity afford many instances of this method of protracting a defence. The sieges of Platea, by Archidamus; of Halicarnassus, by Alexander the Great; and of Rhodes, by Demetrius Poliorcetes, are the most remarkable in the Grecian history. On the latter occasion, the town was preferred by the construction of a second wall, when the machines of the Macedonians had overthrown the first, and made a very practicable breach. At Athens, when besieged by Sylla, in his war against Mithridates, the same expedient was made use of; but without the same success. But ancient history affords no example of a siege where this mode of defence was carried to so great a length as at Saguntum, when attacked by Hannibal. Several walls were repeatedly raised one after another, to protect those parts of the town in which the Carthaginians had not got footing; and by dint of these succetive inclosures, the inhabitants maintained a bloody resistance for nearly eight months. The fatal consequences of this obstinacy are sufficiently known. Guichard, Memoires

In modern warfare, breaches are sometimes effected by battering the place with cannon, sometimes by sapping mines, and oftentimes by a combination of both. In the former case, batteries for making a breach in the body of the place, and ruining the defences, are generally erected upon the covert way, after the besieged have been driven from all their exterior fortifications. As the ravine is to be attacked first, and is flanked or defended by the faces of the bastions opposite to its ditch, the first batteries erected are to ruin the defence of the ditch, and to make breach in the ravine. Each of these batteries should contain four or five 24 pounders at least. Sometimes the batteries raised against the ravine are also used to batter the faces of the bastions; but as this cannot be done without breaking the wall of the ravine too near the flanking angle, it will be much better to erect batteries for that purpose, although if the faces of the protecting bastions were well enfiladed by the guns of the first parallel, firing a ricochet, there would be no occasion for any others. Whilst these batteries are erecting, fresh ones must be made to ruin the flanks of the bastions, of as many guns as can be placed opposite to them, as also some to play against the opposite faces. The best place for effecting breaches, both in the ravine and bastions, is about 15 fathoms from the flanking angle; so that battering on both sides of the angle the breach will become spacious and large; whereas, on the contrary, were the breach made too near the angle, it would become too small and incommodious.

All these batteries are made on the ridge of the glacis, within three fathoms of the covered way, which interval serves to construct the parapet or epaulement; and as the guns which are to effect a breach should fire as low as the bottom of the ditch, the embrasures must be made sloping downwards accordingly. The guns intended to make breach should always fire together, or in salvo's, and as nearly in the same place as possible, and continue so till the wall is quite pierced, which may be known by the earth's falling. They must begin firing at first as low as they can, and batter the wall nearly in an horizontal line, as far as the breach is intended to be made; afterwards fire something higher, in the same manner as before, and continue so to do till the wall tumbles down; for should they fire at first too high, the rubbish would cover the lower part of the wall, so as not to be broken afterwards, and the breach thus become impracticable. The wall being broken down as far as is necessary, the counterforts must be beat down likewise, which, as they advance farther into the earth than the wall itself, will be sooner demolished by firing at them obliquely.

The other, and the shortest way to make a breach, is to pierce the wall with guns, so as to make a hole for two or three miners to lodge themselves in it, who are sent over the ditch as soon as it is dark (in boats, if the ditch is full of water), and make three or four small mines under the parapet, which, when sprung, will at once open a breach sufficiently large, and wanting nothing but to be cleared in order to give an assault. The breach effected by battering, however, certainly costs less men than that accomplished by mines, because, in case of a dry ditch, the necessary establishments there to sustain the miner are avoided; and, if the ditch is filled with water, the ruins of the breach partly choke it up.

The breach being made, and the effects of the mine clearly distinguishable, however practicable it may appear, it is not prudent to hazard a general assault immediately after the mine has been sprung. It is necessary that it should be well examined by hardy and resolute men, who should, if possible, gain the top of the breach, reconnoitre the pature of the garrison, and discover what precautions they may have taken in different places, to counteract the effects of a storm. All breaches made in the body of a place, or in the more important outworks, should be widened as much as the ground will admit of, so as to oppose to the enemy a greater front than that by which he can advance to drive out the besiegers. A practicable breach ought to be fifteen or twenty fathoms wide. This, once made, and the ground levelled, with all materials and tools at hand, the troops directed to mount the breach disposed ready for the assault, and others drawn up to support them in case of need, the guns and mortars should begin to fire briskly on all the defences of the place which flank the front attacked, both directly, and enfilading them by the ricochet batteries; and a great number of shells and stones should be thrown into the ravine or bastion, and its defences. This having continued for some hours, the signal is given for ceasing to fire; and the troops marching to the assault, charge the garrison vigorously, and oblige them to retire. After this, the workmen, headed by an engineer, advance to make a lodgment on the upper part of the breach, which, when partly done, the troops retire behind it, ready to repulse the besiegers if they should return, which they will not fail to do as long and as often as they can. But when this lodgment is once so far advanced as to be in a condition of receiving a good number of troops, the besieged will have it no longer in their power to disturb them by open force, and therefore they will use of their mines, as the last resource left them, if they have not been prevented beforehand, either to blow up the lodgment, or any other place where they perceive a body of men.

When the inner intrenchments have not been ruined by the bombs or mines, which may be the case when they are furnished with revetments, or have not been sufficiently reconnoitred, other proceedings become necessary. Lodgments should be carried on by saps along the parapet, to get possession of the traverses, if the besieged have made any to shelter themselves from the ricochet batteries. These lodgments must themselves be well traversed, from the enfilades to which they are unavoidably exposed, and joined by others across the work, which serve as a sort of parapets to divine the garrison from their intrenchments. If the besieged are retrenched upon the two flanks of the bastion, or at its gorge, which, it is to be presumed, is the case, when the explosion of the mines does not entirely drive him out of the work, it will be expedient to make capacious lodgments on the breach, extend it by means of fourneaux and small mines, and render its accesses practicable and easy, even for heavy artillery, which it may be necessary to mount in battery on the top of the breach, in case that the bombs fail in driving the garrison out of their retrenchments. If there should be any pallisades placed either round these retrenchments, or serving for retracements themselves, they must be broken down with the guns from some battery that can play upon them; or, if this cannot be done, small mines must be carried underneath to blow them up.

These are necessary precautions against the obstinacy of a governor or garrison, who are determined to defend themselves to the last extremity, and which, on such an occasion, must never be neglected. For an assault given halily and incommodiously after springing a mine, and which a prudent and
and wife governor only withstands when he finds himself enabled to do so without much risk of being forced, always command general form of the hall and barred soldiers in his army, and frequently deter the rest from subsequent hazardous attempts, especially if the direction from the commander, and though has been considerable. When the breach is to be carried sword in hand, it is indispensably necessary that all the defences of the work should be breached; the breach itself very practicable, and that, both before and during the attack, an incessant fire of cannon, musketry, and mortars should be poured upon, and into the works enfolding that the immediate object of the assault. The front of the assault should fasify and embrace the whole extent of the works; for, under these circumstances, the superior depth and number of the besieger's column of attack, must necessarily, as at Oeakow. B. Bender, Valenciennes, &c., overbalance the insufficient resistance which can be opposed by a garrison. It was from a neglect of all these precautions, that the grand attack of the confederates upon the cellare of Namur in 1695 entirely failed. The columns destined to mount the different breaches began their march from too great a distance, and, although protected by a prodigious fire of bombs and artillery, the most forward never penetrated further than the middle of the breach; and they retreated after sustaining a serious loss. In fact, it is almost impossible to mount a breach by assault, while any works remain, whose fire is either directed upon, or enfilades the attack.

But, on the other hand, it is equally rash in a governor to re-attend a form, or hazard the lives of his garrison in fruitless attempts to maintain possession of the breach, after these works have all been destroyed, and the breach is reduced to its own defences. A place thus obstinately holding out is in danger of being taken by assault, and the garrison put to the sword, or obliged to surrender at discretion. Retreats, indeed, may sometimes serve to protract an unavailing resistance; but their conclusion should not be delayed, as generally the case, till after a breach has been made in the body of the place, with the sole view of obtaining a better capitulation. When the siege is once formed, much time is lost in their formation; and the losses of men by the bombs thrown into the haillen is very great, besides the considerable fatigue which the soldiers experience. In the ravines, horn-works, crown-works, lunettes, and other detached fortifications, they are of greater service, especially when the ditches are dry, and the communication with the body of the place easy; for, then it becomes impossible to carry them by the gorgias. And when they have revetments, and a fossé, the besiegers will be reduced to the necessity of bringing up artillery upon the work to batter them in breach, or to try the effect of his bombs. If the enemy adopt the method of a blunted sap, he must be very careful to cover himself from the fire of the curtain, and the faces of the bottlons; and in every one of these cases, much time is lost before he can approach the body of the place.

The breach itself may also be defended to advantage. When the enemy are ready to mount, a great quantity of all kinds of combsibles are thrown at the foot of the breach, to be fired, and consequently supplied with fuel. While they are mounting, a great number of grenades must be thrown among them; sakes, glass, or earthen bottles filled with powder, and burning matches twisted round them, crow-foots, harrows, and large timbers, with long iron spikes fastened with chains, so as not to be removed, as also shells, so confined, as not to roll out of the breach. A great quantity of loose powder may a be scattered about, and fire fit to it at the approach of the enemy. This being well executed, and fire arms, both great and small, well served, together with the mortars for throwing shells and stones, will do them infinite damage, and sensibly retard the taking of the work. When the defence is exhausted, and the enemy at last are masters of the breach, the mines are fired, to destroy, if possible, their lodgment, with all the men established in it. Should this succeed, the besieged may return immediately, and clear the breach, so as to render it impracticable. Several mines should be made under one another, if the ground will allow of it, that the breach may be destroyed several times, which will sometimes dishearten the enemy's troops, put them out of all patience, and may eventually contribute to make them raise the siege, as was the case at Maastricht, when besieged by the prince of Orange in 1674.


Brecc of close, in Law. See Close.

Brecc of covenant, denotes the non-performance of any covenant expressed or implied in a deed; or the doing of an act, which the party covenanted not to do. See Covenant.

Brecc of duty, denotes the non-execution of any office, or office, or trust, &c. in a due and legal manner. See Assumpsit.

Brecc of peace. See Peace.

Brecc of pound. See Pound.

Brecc of prison. See Prison.

Brecc, to batter in, batre en brèche. See Battering.

Brecc, mounting the. See Mounting.

Bread is ordinarily made of the flour or meal of some farinaceous vegetable ground, and kneaded with water and leaven or yeast.

In describing the process of making bread, it is natural, in the first place, to advert to the substance or material of which it principally consists. This is the flour obtained from farinaceous vegetables, principally wheat or rye, or a mixture of both these, called in many parts of the kingdom bread-corn, converted into meal by trituration, or grinding in a mill, and separated from the husk or bran by sifting or holing. This is composed of a small quantity of mucilaginous farinaceous matter, soluble in cold water, and separable from it by evaporation, much flour, which is scarcely soluble in cold water, but capable of combining with that fluid by heat, and an adhesive grey substance, called gluten, insoluble in water, ardent spirit, oil, or other; and in many of its properties resembling an animal substance. When flour is kneaded with water, it forms a tough paste, containing the constituent principles of flour, with very little alteration, and not easily digested by the stomach. By heat the gluten, and probably the flour, undergoes a considerable change, and the compound is rendered more easy of modification, as well as digestion. When this dough is kept in a warm place, it swells up, becomes spongey, and filled with a number of air-bubbles, dengages at length an acridulous and spirituous fluid, taints four, and in this state is called "leaven," from the French word "lever," to rise. Whillest the dough, or paste, is left to undergo a spontaneous decomposition, in an open vessel, the various ingredient parts are differently affected; the farinaceous part is convertible into an ardent spirit, the mucilage tends to coagulate and mouldiness, and the gluten probably verges towards a state of putridity. By this incipient fermentation, the bread becomes more digestible and light; that is, it becomes much more porous by the dengagement of chalybe liquid, which separates its parts from each other, and much enlarges its bulk. The operation of baking puts a stop to this process, by evaporating a great part of the moisture which favours the chemical
Among the ancients, we find various denominations of bread; such as 1. Panis figuratus, called also mundus, artificium, juniper, colophon, and rohes, corresponding to our white bread; being made of the purest flour of the best wheat, and only used by the richer classes of persons. 2. Panis secundus, or secundarius, called also saullarius, or saulignus, the next in purity; being made of fine flour, from which all the bran was not lifted. 3. Autopsia, called also fucorumagus, or confignatus, made of the whole substance of the wheat, without retrenching either the finer flour or coarser bran; corresponding to our household bread. 4. Catena, being to the fame with that otherwise denominated fridulius, as being given to dogs; furfuraceus, furfuraceus, or furfuraceus, because it contained mostly of bran; and, in the middle age, biffin, on account of its brownness; and sometimes also leite.

There were other kinds of bread, denominated either from the ues to which they were applied, or the manner in which they were made; such as, 1. the militaris, which was prepared in camp by the officers and soldiers with their own hands; for which purpose some had hand-mills, and others pounded the corn in a mortar, and baked it on the coals. 2. Citharae, that baked in an oven, by what contradiction from that baked on the hearth, or under the embers. 3. That called fabriicenitus, or faber tricor cultus; sometimes also rarefus, because it was to be turned in the baking. 4. Nautes, answering to our farin-biscuit, and denominated bit cultus. See Bisket.

Other kinds of bread were denominated from certain qualities belonging to them; such as, 1. Panis sectus, that which had been long baked; such was the bit cultus, naval and buccellated bread. 2. Madidus, a soft made of rye or bear, sometimes also of fine flour, with which they fmarred their faces, by way of a cosmetic, to make them smooth. 3. Acidus, or four bread, which was acidulated with vinegar. 4. Azygus, unleavened, or unfermented bread.

The French have also many varieties of bread; as queen's bread, Adam's bread, bread de Sigovie, de Gentilly, quality bread, &c., all prepared in peculiar ways by the bakers at Paris. The bread de Gonesse excels all others, on account of the waters at Gonesse, about 3 leagues from Paris; it is light, and full of eyes, which are marks of its goodness. Pain de meunier is that which each family bakes for itself. Spice-bread, pain d'épice, denotes bread baked and iced over with the feum taken off sugar in refining houses; it is also sometimes made with honey, and other sorts of feaoning, and answers to what the ancients call panis miscitus.

Among us, bread is chiefly divided into eubite, eubates, and husbeld; differing only in degrees of purity. In the first, all the bran is separated; in the second, only the coarse: in the third, none at all; so that fine bread is made only of flour; eubates bread, of flour, with a mixture of the finer bran; and husbeld, of the whole substance of the grain, without taking out either the coarse bran or fine flour. Stat. 8 Ann. cap. 18. We also meet with fynel breed, manchet or roll bread, and French breed; which are only to so many denominations of the finest or white bread, made of the purest flour: except that in roll-bread there is an addition of milk; and, in French breed, of eggs and butter also. To which may be added, ginger-bread, made of white bread, with almonds, liquorice, aniseed, rose-water, and sugar or treacle; and wishful-bread, panis mixtus, made of wheat and yce, or sometimes of wheat and barley.

The proceeds of making husbeld bread among us, is thus: to a peck of meal they add a handful of salt, a pint of yce, and three quarts of water, cold in summer, hot in winter, and temperate between the two; the whole being kneaded

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in a bowl or trough by the fire in winter, from it in summer, will rise in about an hour; they then mould it into loaves, and put it into an oven to bake.

For unleavened bread, part of the flour intended for it being made into dough with warm water and a little salt, is laid in the rest of the flour an hour or more, in which time it rises to three times the bulk; then they mix and knead the whole with more water, till it be brought into a stiff dough; which being formed into loaves, is baked in the oven; though the more usual way is to take a piece of dough kneaded and leave it in the tub till next time, when they break it small and mix it with the meal, adding some yeall. Hought. Collect. tom. i. N° 92. p. 241.

For French bread, they take half a bushel of fine flour, ten eggs, and a pound and a half of fresh butter, into which they put as much yeast, with a manchet; and tempering the whole mass with new milk, pretty hot, let it lie half an hour to rise, which done, they make it into leaves or rolls, and wash it over with an egg beaten with milk; care is taken the oven be not too hot.

In Lancashire, and several other northern counties of England, the people have several sorts of oat-bread: as, 1. The bannock, which is an oat-cake, kneaded only with water, and baked in the embers. 2. Clap-bread, which is made into thin hard cakes. 3. Bitchens-bread, which is made of thin batter, and formed into thin soft oat-cakes. 4. Riddle-cakes, which are thick and four, and very little different from the hand-cake bread, which has but little leaven, and kneaded stiff. And, 5. Jannock, which is oat-bread made up into loaves.

In Scotland they have peafl-bread, consisting either wholly of the flour of peafl, or of this and oatmeal mixed; the dough, sometimes leavened, and sometimes made only with water, is formed either into bannocks or cakes, and baked over the embers; or into what they calllap's, i.e. a kind of flatflth rolls, and baked in the oven.

In the flatlute of affixe of bread and ale, 51 Hen. III. mention is made of waitel-bread, cocket-bread, and bread of treet, which answer to the three sorts of bread now in use, called white, wheaten, and headfield-bread.

In religious houses, they heretofore distinguished bread by the names, equire-bread, panis arvigerum; monks-bread, panis conventualis; boys-bread, panis puerorum; and servants-bread, panis famulorum, or panis serventialis. A like distribution obtained in the households of nobles and princes; where, however, we find some other denominations, as meflengers-bread, panis nuncius, that given to messengers, as a reward of their labour; court-bread, panis curiatis, that allowed by the lord for the maintenance of his household; elefatory-bread, that distributed to the poor in the way of alms. Du-Cange Gloff. Lat. tom. iv.

Bread is usually made of the feeds, sometimes also of the roots, and even the pith of plants. The first bread is supposed to have been made of the plant "lotus." In some countries they make bread of acorns. See Acorns. In the islands of Banda and Ambonya, they make a kind of bread called "fagem," or "fage," of the pith of a tarinaceous tree, which yields a white mealy subflatus, that, being kneaded with water, fermented, and baked on the coals, serves the poor for bread. See Sago. In the Caribbean islands, &c, they make bread of the root of a poisonous plant called "Manioc;" probably the same with the Canafada bread, which is made of the root of the Yucea Mexicana. See Manioc, and Cassada. To the denomination of bread, made of roots, may also be added potato-bread, frequent in Ireland, and turnip-bread, used occasionally in some parts of England. Potatoes, previously peeled, cut into thin slices, and put between folds of paper, will dry in a heat somewhat less than 35° of Reaumur's thermometer, and, when thus dried, will preserve their white colour. In this process they lose about two-thirds of their weight, and they may be then reduced to a fine powder, which indicates the presence of an amylaceous matter, and has the smell and taste of wheat. It is also nutritious, and may be kept for a long time. From these circumstances, M. Parmentier was led to attempt the making of bread with the meal of wheat, and that of potatoes, mixed in different proportions. By combining one-fourth, one-third, one-half, and two-thirds of the potato meal with the flour of wheat, and adding a little salt and yeast, he obtained bread that was well talled, but which had fermented little, was brown, and covered with hard brown crusts. Bread made from the meal of potatoes alone, with the addition of salt and yeast, was eatabile, but heavy, unfermented, and very brown; and apt to crumble into powder. In order to give it greater adhesion, M. Parmentier mixed with the meal a decoction of bran, or a mixture of honey and water, either of which made it lighter and more fermented; it thus also obtained a crust of a golden colour, and became well talled, and sufficiently adhesive. He obtained also well fermented bread, of a good colour and taste, from a mixture of raw potatoe-pulp with mealy wheat, or potatoe-meal, with the addition of yeast and salt. Upon the whole, he recommends, after various trials, the mixture of potatoes, in times of scarcity, with the flour of wheat, instead of employing rye, barley, or oats, which has frequently been done; when grain is altogether wanting, he recommends the use of bread made from a mixture of the amylaceous powder of potatoes and their pulp, fermented with leaven or honey. The meal of this root, diluted with hot water, acquires a tenacious and gluey consistence. This meal, however, gives a grey colour to bread made by mixing it with the flour of wheat; but a mixture of the pulp of potatoes with the flour of wheat does not produce brown-coloured bread. M. Parmentier made bread very much resembling that of wheat, by mixing four ounces of amylaceous powder of potatoes, one dram of musclage extracted from barley, one dram of the bran of rye, and 1/4 dram of glutinous matter dried and powdered. See Potato. M. Parmentier also recommends the use of the horse-chefnut for the purpose of making wholeome bread. With this view he advises taking off the skin, and pressing out the juice, and reducing the fruit into a paste, which, being diluted with water, and strained through a sieve, will yield a milky-coloured liquor, that, on being left to stand, deposits a fine powder. This powder, when dried, has neither smell nor taste, and is very fit for aliment; the mass from which it is procured retaining the bitternes of the fruit. The roots of the bryony, he says, treated in the same manner, yield a similar white powder. By the same treatment, fine, white, infipid, inodorous powders may be procured from the roots of the iris, gladiosus, ranunculus, fumarum, arum, dracunculus, mandragora, colchicum, filipendula, and helleborus; plants which grow spontaneoufly, and in great abundance. The roots of the graminum arvene, which some naturalists have confedered as the original species from which all our grain is produced, are sweet-ta ted; and in order to their being prepared for bread, it is merely necessary to cleanse them, to cut them small, and to dry and pound them. The powder, he observes, does not dissolve in cold water or spirits, but is dissolved in boiling water, which it renders thick and cloudy; and, upon cooling, the whole mass obtains a gelatinous consistence. Upon a chemical analysis, it yields an acid empyreumatic oil, which poiflises a singular odour, resembling that which is perceived on burning the plant.
BREAD.

plant. The spongy residuum, calcined in the air, gives a fixed alkali. From these properties, he infers, that it contains an amylaceous matter, similar to that of grain, which appears to be the nutritive part of vegetables. This amylaceous matter, formed into a jelly, and diffused in water, keeps for a long time without suffering any change. It then turns acid, and at length putrefies. M. Parmentier gives an account of the bread which he obtained from the amylaceous powders of the different vegetables above-mentioned, with the addition of potatoes and a small quantity of common leaven of grain. This bread appeared in general to be well fermented; it was of a good white colour, and free from any disagreeable odour; but to the taste it was somewhat infapid, which he supposes might be corrected by the addition of a proper quantity of salt. In order to guard against a feaon of scarcity, when some of these plants may not be procured, he propouses a method of preparing the matter thus obtained.

For this purpose, he advises, that bread prepared in the manner above-mentioned should be carefully dried, reduced to powder, and kept in a close cask. By this means he thinks it may be preserved for a very long time, and be always ready to make an agreeable and wholesome panade, with the addition of a little butter and salt. In order to determine the degree of nourishment which this alimentary powder was capable of affording, he tried its effect upon himself; and he found that three ounces of it for dinner, and as much for supper, made into panada with water, was a sufficient quantity of aliment for a day. From its discharge by fl. oh, while he used it, he had reason to believe, that it is almost totally alimentary. He concludes with recommending it not only as useful in times of scarcity, but as a proper substitute to tea-biscuit, and as a kind of food well adapted for armies and hospitals. Examen Chymique des Pommes de Terre, &c. Memoire fur les vegetaux qui pourroient suppler en temps de difette a ceux que l’on employe communement a la nourriture des hommes, &c.

In order to make bread of turnips, the following method is recommended in the “Musee rutileum et commerciale.” When turnips are plentiful, a number of them should be pulled, washed clean, pared, and boiled. When they are soft enough for being mashed, the greatest part of the water should be pressed out of them, and they should then be mixed with an equal quantity in weight of coarse wheat meal. The dough may then be made, in the usual manner, with yeast or barm, salt, water, &c. It will rise well in the trough; and after being well kneaded, it may be formed into loaves, and put into the oven to be baked. The peron who made this experiment had other bread made with common meal in the ordinary method. The turnip-bread was baked rather longer than the other. When they were drawn from the oven, a loaf of each sort was cut; and, upon examination, the turnip-bread was sweeter than the other, not less light and white, with a flight, but not disagreeable, taste of the turnip. When it was tasted 12 hours after, this taste was scarcely perceptible, and the smell was quite gone off. After an interval of 24 hours, it could not be known that it had any turnips in its composition, although it still had a peculiar sweetish taste. After 24 hours, it appeared to be rather superior to bread made only of wheat flour; it was frether and moister; and, after a week, it was full very good.

Rice will serve the purpose of making very good bread; and the method practised in Carolina is as follows: The grain is first washed by putting it in a vessel and pouring water upon it, then straining it; and changing the water until it is sufficiently cleaned. The water is then poured off, and the rice placed in an inclined position to drain. After being sufficiently drained, it is put, while damp, for the greater facility of pulverization, into a mortar, and beaten to powder; it is then completely dried, and passed through a common kitchen hair-dye. The rice flour, thus obtained, is kneaded with a small proportion of Indian corn-meal, and boiled into a thickish consistence; or it is sometimes mixed with boiled potatoes; and a small quantity of leaven and salt is added to the mass. When the fermentation has been sufficiently excited, the dough is put into pans, and placed in an oven to be baked. By this process a light wholesome bread is made, which is not only pleasing to the eye, but agreeable to the taste. See Rice.

In Norway, they have bread made of barley and oatmeal, baked between two flones: and Bartholin says, that it keeps 50 or 50 years, and that the older it is, the more agreeable. For their great feasts they use the oldfet bread; and at the baptism of a child, they have bread, which had been baked probably at the baptism of the grandfather.

Dr. Townsend, in his “Travels in Hungary,” has described the mode of making excellent bread without yeast, as it is practised at Debretzin in that country. The flour used for this purpose is made in this manner: Two good handfuls of hops are boiled in four quarts of water; this is poured upon as much wheaten bran as it will moisten; and to this are added four or five pounds of leaven. When the mass is warm, the several parts are well mixed by being worked together. It is then deposited in a warm place for 24 hours, and afterwards divided into small pieces, about the size of a hen’s egg, or a small orange, which are dried by being placed upon a board and exposed to a dry air, but not to the sun; when dry they are laid by for use, and may be kept half a year. The ferment thus prepared, is applied in the following manner.

For a baking of fix large loaves, six good handfuls of these balls are dissolved in seven or eight quarts of warm water; and this water is poured through a sieve into one end of the bread-trough, and after it three quarts of warm water, the remaining masses in the sieve being well pressed out. The liquor is mixed up with flour sufficient to form a mass of the size of a large leaf: this is strewn over with flour, the sieve with its contents is put upon it, and the whole is covered up warm, and left till it has risen enough, and its surface has begun to crack; this forms the leaven. Then fifteen quarts of warm water, in which six handfuls of salt have been dissolved, are poured through the sieve upon it, and the necessary quantity of flour is added, and mixed and kneaded with the leaven; this is covered up warm, and left for about half an hour. It is then formed into loaves, which are kept in a warm room for half an hour; and after that they are put into the oven, where they remain two or three hours, according to the size. The great advantage of this ferment is that it may be made in large quantities at a time, and kept for use; and on this account, it might be useful on board of ships, or in camps for armies in the field.

The quantity of bread allowed a soldier for his day’s subsistence is called a ration.

For armies the bread is either baked in the park of provisions in the camp, or in the town near the army; for the conveniency of ovens, an army ought always to have at least four days bread before-hand. In some cafes, the dillence of the places from whence bread is to be had, or the army’s march from one country to another, obliges the general to distribute bread for fix, or even for eight days: a thing never done without absolute necessity; by reason of the abuse which some soldiers make of it, who sell their bread without regard to future subsistence. For long marches, the
through an enemy's country, they sometimes, instead of bread, make bilkets.

Bread, in Domestic Economy, serves as a nutritive aliment, in all countries where it can be obtained. The farinaceous vegetables are distributed so universally over the face of the earth, and have become to such a degree the objects of culture, that they are very generally made into bread; and as generally a portion of them is taken into the mouth along with almost every morsel of other food. By fermentation it acquires a more tapioc texture, and becomes more friable, and of course more easily masticable with the saliva, and our other aliments, during the progress of mandicution, which it necessarily retards, and whilst the operation of digestion is performed in the stomach. To these purposes it is adapted by being bulky without too much solidity, and by being firm without too great difficulty of solution. The bread or malt of this kind is bread, made of the flour of good wheat, well fermented, thoroughly baked, with a little salt; whereas that which is not thoroughly baked, well kneaded, and without salt, is reckoned hurtful and unwholesome, as also unleavened bread and cakes baked under the ashes. In general, the lighter the bread the better and more agreeable it is; coarse and barley bread is detestive, commonly purgative, at least to those who are not used to it. "We are willing to own," says Dr. Cullen, in his diffusion of this subject, "that a farinaceous substance, formed by fermentation into a perfect bread, is the most wholesome condition in which farinaceous matters can be employed as a part of our food; and we are ready also to allow, that the unleavened farina, taken in immediate quantity, especially at a certain period of life, or in dyspeptic stomachs, may be the cause of disease: but all this seems to have been exaggerated; for the morbid effects of unfermented farina are truly rare occurrences; and, indeed, the same unleavened farinae are for the most part very well suited to the human economy. However considerable the use of fermented bread may be, the use of unleavened farinae is still very great and considerable amongst almost every people of the earth. The whole people of Asia live upon unleavened rice; and I believe (says he) the Americans, before they became acquainted with the Europeans, employed, and for the most part still employ, their maize in the same condition. Even in Europe, the employment of unfermented bread, and of unleavened farinae in other shapes, is still very considerable; and we are ready to maintain, that the morbid conseqences of such diet are very seldom to be observed. In Scotland, nine-tenths of the lower classes of people, and that is the greater part of the whole, live upon unleavened bread, and unleavened farinae in other forms; and at the same time I am of opinion (says this writer) that there are not a more healthy people any where to be found." In opposition to this fact it has been alleged, that this kind of diet is only safe, when used by robust and labouring people; but Dr. Cullen says, "We give it in this country not only to the farmer's labouring servants, but to our sedentary tradesmen, to our women, and to our children; and all of the latter live and grow up in good health, except a very few dyspeptics who are not free from complaints, which those also are liable to who live on fermented wheaten bread." It is hardly necessary to say any thing of bread in reference to its medical use; however, decoctions, creams, and jellies of bread have been directed in some diverse complaints. Bread, well baked, and infused on strongly boiled in water, imparts to it a deep colour, and a highly agreeable indifferent taste. This liquor, used as common drink, has been sometimes beneficial in a weak lax flat of the stomack and intestines; and in bilious vomiting and purging, or the cholera morbus; of which infalliences occur in the Edinburgh phials, in which no other medicine was used. The use of bread, as an external application, is well known. Mr. Boyle affurds us (Phil. Works Abr., vol. i. p. 34. 39.) that he derived a medicinal from bread stronger than aqua fortis, and which would act even upon glafs itself. See farther concerning bread in the writers on food and cookery; especially in Hen. Nicolai, Traict. de Pane, Dantific. 1651. Fabr. Bib. Antig. c. 19. 6. Cullen's Mat. Med., vol. i. p. 283.

Bread, bonpournichole, or bonpournickel, the name of a very coarse bread eaten in Welfphalia, and many other places. This bread of the Welfphalians still retains the opprobrious name once given it by a French traveller, of bonpournichole, for his borre Nicolot, but is by no means a contemptible kind. It is far from being peculiar to this age or country: it has been known in distant places, and in different ages, and was called by the ancients paris farinae, or parisi impura, from its not being so thoroughly cleaned from the milk or brat, as the fine sorts of bread are. The wretchers of old eat only this sort of bread, to preserve them in the strength of limbs; and we may learn from Pliny, that the Romans for three hundred years knew no other bread: and it has been said, that this coarse bread nourishes more, affinages hunger better, and generates humoura less subject to corruption than the white.

The inhabitants of Welfphalia, who are a hardy and robust people, and capable of enduring the greatest fatigues, are a living testimonio to the salutary effects of this sort of bread; and it is remarkable, that they are very seldom attacked by acute fevers, and those other diseases which arise from an ebulition of the humourous, and a malignant colliquation of the blood, and of the humourous of which it is composed. It is certain that a less strong diet is more proper to weakly constitutions, and people of sedentary lives, than this; but for those who will use the necessary exercise with it, it is easy to see that it is preferable to all other kinds of bread; since it remarkably restores strength, and has another salutary effect, which is, that it renders the belly soluable: this was a quality remarked in coarse bread, and highly commended in it, so early as in the days of Hippocrates.

The Germans make two forts of waters by distillation from this bread; the one with, the other without, the addition of a spirituous liquor: to both which great virtues are ascribed. That without any thing spirituous, is made of the juice of cran-fish, May-dew, rose-water, nutmegs, and saffron, distilled from a large quantity of this bread. This is esteemed a great restorative, and given in hectic habits. The other is distilled from this bread and Rheum wine, with nutmegs and cinnamon. This is given in all the divers orders of the stomack, vomiting, and los of appetite, and other complaints of the same kind, and besides these, there is a spirit distilled from it by the retort, in the dry way, which, when separated from its feidol oil, is esteemed a powerful sudorific, and very valuable medicine, in removing impurities of the blood. Hoffman.

Bread, borje, is made of wheat, oats, and beans, to which sometimes are added aniseed, gentian, liquorice, fenugreek, eggs, and ale; and sometimes rye and white wine are used.

For race-horses, three sorts of bread are usually given with feeses, for the second, third, and fourth fortnights feeding; they are all made of beans and wheat, worked with birn, the difference consisting chiefly in the proportion of the two former. In the first kind, three times the quantity of beans is used to one of wheat; in the second, equal quantities
quantities of both; in the third, three times the quantity of
wheat to one of beans.

Bread, sacramental, in the protestant churches, is com-
mon leavened bread, agreeable to the ancient practice. In
the Roman mass, azymus, or unleavened bread, is used, parti-
cularly in the Galician church, where a flat is provided for
this purpose, called pain a chanter, made of the purest
wheat flour, pressed between two iron plates, graven like
wafer-moulds, being first rubbed with white wax, to prevent
the paste sticking. See Azy mus.

Ecclesiastical writers enumerate other species of bread,
allotted for purposes of religion: as, 1. Calendarium, that
anciently offered to the priests at the calends. 2. Prohibuda-
rias, the fame with capitationis, that distributed daily to each
prebendary or canon. 3. Benedixit, that anciently given
to catechumens before baptism, in lieu of the eucharist bread,
of which they were incapable of partaking. 4. Consecrated
bread is a piece of wax, paille, or even earth, over which fe-
veral ceremonies have been performed with benedictions, &c.
to be set up in an aqua des, or a relic box, and presented
for veneration. 5. Unleavened bread, or azymus. The
Jews eat no other bread during their fasts; and exact search
was made in every house, to see if no leavened bread was
left. The usage was introduced in memory of their Vally
departure from Egypt, when they had no leisure to bake
leavened bread. 6. Stew bread was that offered to God every
Sabbath-day, being placed on the golden table, in the holy
of holes.

Bread of St. Hubert, St. Genevieve, St. Nicholas, &c.
denote cakes sanctified with certain prayers and invoca-
tions of those saints, held by the superstitious in the cure of
hydrophobias, agues, and other diseases.

Bread is also used to denote certain foods made of animal,
or even mineral matters, serving to supply the place of bread.
In divers parts of the North, we read of fish-bread, particu-
larly in Ireland, where dried cod is used for bread, being
first beaten to powder, and made up into cakes. The like
obtains among the Laplanders, whose country affords no
corn; and even among the Crim Tartars. Phil. Trans. No. 102. p. 275. Sh Intl. Hist. of Lapl. ch. 14. In the
lordship of Moscaw in Upper Lusiya, a loft of white earth
is found, of which the poor, urged by the calamities of the
wars which raged in those parts, make bread. This earth,
dug out of a hill where they formerly worked at salfpetre,
when warmed by the sun, cracks, and small globules proceed
from it like meal, which ferment when mixed with meal.
Some persons have lived upon it for some time. Some of
this meal has been kept for more than six years. A similar
earth is said to be also found near Gerome, in Catalonia.

Bread, in a more extensive sense, includes all the neces-
saries of life, as food, raiment, lodging, &c.

Hence the fable is sometimes called, in ancient writers,
the day of bread, by reason the eucharist was then adminis-
trated every Lord's day.

In this comprehensive sense the term bread seems to be used
in the petition of the Lord's prayer. Matt. vi. 11. In this
passage ερεμος σῆμερος does "sufficient bread," or a com-
nption. The word ερεμος is one of the αξεπερατος, and
is found in no Greek author prior to the Evangelist. The
composition is of ερεμος and αρρεβος, g. d. proper, or sufficient for
support, and it is not inapplicable, that ερεμος should by degrees
have coalesced and become ερεμος, as it now stands, in the
MSS. The petition exactly corresponds to that in Agur's cele-

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<th>Table of the Assise and Price of Bread made of Wheat.</th>
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*BREAD.*
## Table of the Affixe and Price of Bread made of Whiflat.

<table>
<thead>
<tr>
<th>Price of the bushel of wheat and baking s, d.</th>
<th>Weight of the penny loaf, oz., dr., oz., dr., 12th, and twelfth</th>
<th>Weight of the quartain loaf, oz., dr., oz., dr., 12th, and twelfth</th>
<th>Price of the half peck, s., d.</th>
<th>Price of the peck, s., d.</th>
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By the preceding table, if the price of wheat be 5s. a bushel (Winchester measure) and the allowance of the magistrates to the baker for baking, is 1s. 6d., the weight and price of the several loaves will be found opposite to 6s. 6d. in the first column. The weight of loaves of any size may be estimated from that of the penny loaf by simple addition; e.g., the sixpenny loaf weighs six times as much, &c.; and the wheaten loaves are three-fourths of the weight of the household loaves; and if the magistrates allow any of the white loaves of the price of one penny or twopenny, they are to weigh three-fourths of the weight of the wheaten loaves of the same price. The prices of the household loaves are always three-fourths of the prices of the wheaten loaves.

The persons authorized to set the affine weight of bread, when wheat is above the price of 1s. 6d. the highest price of a bushel of wheat, together with the baker's allowance in the table, should observe, that the respective weights of the several affine loaves will decrease in the same proportion as the prices of the bushel of wheat, together with the allowance for baking, increase; and that such weights may be deduced from the present table as in the following examples: 1. Required the weight of the twelve-penny wheaten loaf, when the price of the bushel and baking is 16s. The weight in the above table opposite to 8s. is 5lb. 11oz. 12dwt. But the price of the bushel and baking being now twice as much, the weight of the loaf can only be half what it then was, viz., 2lb. 13oz. 12dwt. 2. Required the weight of the twelve-penny wheaten loaf, when the price of a bushel of wheat and baking is 10s. 3d. The weight, when the price of the bushel and baking is 10s. 3d., is 2lb. 11oz. 14dwt.; and the weight, when the price of the bushel and baking is 16s. 6d., is 5lb. 11oz. 14dwt. and these two added together give 5lb. 9oz. 10dwt. and, therefore, one half the weight at 16s. 6d. is 2lb. 1oz. 13dwt.

For the price of the peck loaf, and its subdivisions, it should be observed, that the price increases in the same proportion as the price of the bushel of wheat, together with the allowance for baking, e.g., 1. Required the price of the peck loaf wheaten bread, when the price of the bushel and baking is 16s. The price of such loaf by the table, when the bushel and baking is 10s. is 3s. 5d.; consequently at 16s. it must be double or 6s. 1d. 2. Required the price of the peck loaf when that of the bushel and baking is 10s. 3d. The price when that of the bushel and baking is 10s. is 6s. 1d.; at 16s. 6s. 4d.; and adding these, we have 12s. 6d. one-half of which, or 6s. 2d. is the price at 16s. 3d. See 39 and 40 Geo. III. 73.

The affine is to be set in avoidance of price; and the prices of grain, meal, or flour, allowed to be made into bread in London, shall be determined by the public sale in the London markets during the whole market, and certified on oath before the court of mayor and aldermen, on some certain day in every week, by the meal-weighers or perforners appointed by the said court; and entered in writing under the hands, in some book provided by the city, and kept at the town-clerk's office. On the next day after such price shall be certified, the affine and weight of all sorts of bread for sale, and also the price, shall from time to time be set by the said court, or mayor, and remain in force until a new affine in London shall be set. As soon as it can conveniently be done, the affine so set shall be made public in the manner directed by the said court. But before any advance or reduction shall in any week be made by the said court or mayor in the price of bread, the meal-weighers or perforners duly appointed shall return the prices of grain, meal, and flour, in writing, to the common hall of the company of bakers, so that the said company may, on the morning of the next day after every such return and entry, and before any affine be set, have an opportunity to offer to the said court or mayor the objections against any proposed advance or reduction. In other cities and towns corporate this business shall be conducted and settled by the court of mayor and aldermen, if there be any, or by the mayor, bailiff, or chief magistrates, or by two juries in such towns and places which have no such mayor, bailiffs, aldermen, or chief magistrates. In places within counties at large, two juries are authorized to set the affine. Bread of different denominations, such as sixpenny, twelve-penny, and eighteen-penny loaves, and peck, half-peck, and quarter of a peck loaves,
loaves, shall not be allowed to be made or sold at the same time in the same place, under a penalty of forfeiting not more than 40s. nor less than 20s. at the pleasure of the magistrate, upon conviction of the offender. After the affife has been set, no alteration shall be made in it till the price of corn alters 3d. a bushel. Officers appointed to make returns, and offenders against the due execution of this act, shall forfeit a sum not exceeding 3l. nor less than 20s.: and dealers in corn refusing to disclose the real prices of grain, meal, or flour, publicly sold, or knowingly giving a false price, shall, on conviction by confession, or the oath of one witnests, forfeit not more than 10l. nor less than 40s. Bakers of bread made of other grain besides wheat, according to order, are required to conform to the affife, on pain of forfeiting not more than 3l. nor less than 40s.

The statute 36 Geo. III. c. 23. contains regulations for making mixed bread, and enacts that persons in any place whatsoever, whether any affife of bread has been set or not, may make and sell peck, half-peck, quart, and half-quartern loaves, made of the whole produce of wheat, deducting only 5lb. of bran per bushel; or made of any sort of wheat flour mixed with meal, or flour of barley, rye, oats, buck wheat, Indian corn, pease, beans, rice, or any other kinds of grain, or potatoes, in such proportions and of such prices as the maker or seller shall deem reasonable. Every loaf of such mixed bread shall have upon it a mark. It is required by 31 Geo. II. c. 29. § 21. that the several sorts of bread made for sale shall be well made, and no allum or mixture in which allum is an ingredient, or any other ingredient or mixture whatever, except only the genuine meal or flour, which ought to be put therein, and common salt, pure water, eggs, milk, yead, and harm, or such leaven as is allowed by those who let the affife, or by any magistrate or justice within his jurisdiction, shall be used in making any dough or in the preparation of bread, on pain that the offender (other than a servant or journeyman), upon conviction by confession, or the oath of one witnester, shall forfeit not more than 10l. nor less than 40s. or be committed to prison or house of correction for any time not exceeding one calendar month, nor less than 10 days, at the pleasure of the magistrate. A servant or journeyman, upon conviction, shall forfeit not more than 3l. nor less than 20s. or be committed to prison as aforesaid. The magistrate before whom such offender has been convicted, may apply the money forfeited for causing the offender's name, place of abode, and offence, to be published in some news-paper, printed or published near the place where the offence shall have been committed. The adulteration of meal, or knowingly exposing it to sale, incurs a forfeit of not more than 3l. nor less than 40s. If bread fold, or exposed for sale, be deficient in weight according to the affife, the offender, formerly liable to the pilory, shall now forfeit not more than 10s. nor less than 6d. for every ounce wanting; and for every defect less than an ounce, not more than 26. 6d. nor less than 6d. such bread being complained of, and weighed before a magistrate within 24 hours after the same shall have been baked or exposed to sale, within the bills of mortality, or within 3 days in any other place. It has been observed, that bread loafs weight by keeping: so Bartholine concludes from some experiments that the diminution was nearly one fourth in fix months. Bakers are obliged under a penalty, not more than 20s. nor less than 5s. to mark their wheaten bread with a large Roman W, and their household bread with an H. No person shall sell bread for a greater price than that afferteen by the affife, or refuse to sell such bread at the stipulated price, under a penalty of forfeiting for every such offence not more than 40s. nor less than 10s. By 2 and 3 Edw. VI. c. 25. if a baker shall conspire not to sell bread but at certain prices, every such person shall forfeit 10l. for the first offence; and if not paid within 6 days, he shall be imprisoned 20 days, and have only bread and water for his sustenance; for the second offence, 2ol. or the pillory; and for the third offence, 4l. or the pillory, and loss of an ear, and becoming infamous. Bread inferior to wheaten shall not be sold for a higher price than household bread, under a penalty of 20s. By 31 Geo. II. c. 29. and 32 Geo. II. c. 18. magistrates may grant warrants for searching houses, in order to examine bread deficient in weight, or unconformable in any respect to the statute and affife, and for seizing the same; and also, upon information given on oath, for searching mills, and other places, where adulterated meal is concealed, and for seizing the same. Every miller, baker, &c. who has in his possession unlawful ingredients for the purpose of adulterating meal or bread, shall forfeit not more than 10l. nor less than 20s. and out of the forfeiture may be published the name of the offender, his place of abode, and the offence in some newspaper, printed or published in or near the place where the offence was committed. Persons obstructing such search and seizure shall forfeit not more than 3l. nor less than 20s.

By a general clause in the act 31 Geo. II. c. 29. § 54. all penalties and forfeitures, when recovered, shall be paid to the informer; and by 32 Geo. II. c. 18. one moiety of such penalties as are not particularly disposed of shall be given to him who shall inform and prosecute; and the other moiety, together with all penalties and forfeitures incurred in the weighing, trying, or seizure of any bread by any magistrate, shall be applied, for the better execution of the act, according to the pleasure of the magistrate. Proceedings under this act are limited within 7 days after the conviction of the offence, by 32 Geo. III. c. 57. The statute 3 Geo. III. c. 11. contains certain regulations and provisions in case no affife is set. By 14 Geo. III. c. 62. a standard wheaten bread was ordered to be made of such flour as is the whole produce of the grain, the bran or hull only excepted, and to be marked S. W. This bread is made and sold, though no affife be set, at the weight and in the proportions following: viz. that every standard wheaten peck loaf shall weigh 17lb. Geo. avoidupois; every half-peck loaf 8lb. 11oz. and every quartern loaf 4lb. 5oz.; and every peck loaf, half-peck loaf, and quartern loaf shall always be sold as to price in proportion to each other respectively; and that when wheaten and household bread, made as the law directs, shall be sold at the same time, together with this standard wheaten bread, they shall be sold in proportion to each other as follows: viz. that the same weight of wheaten bread which costs 8d. shall of this standard wheaten bread cost 7d. and the same weight of household bread shall cost 6d.; or 7 standard wheaten affised loaves shall be equal in weight to 8 wheaten affised loaves, or to 6 household affised loaves of the same price, as nearly as possible. The magistrates may, when they think proper, fix the affise of this standard wheaten bread, according to tables calculated for the purpose. The bakers and sellers of it shall be liable to all the penalties of the former acts. See the tables 39 and 40 Geo. III. c. 18. and c. 74. Barn's Justice, vol. i. and iv.

BREAD. Indian, or Coffafo. See Jatropha ManiHot. Breed, St. John's. See Ceratonia Silica. Breed, savage, panis percosus, a denomination given to trifles.

Bread, sow's, a name applied to the herb Cyclamen.

Bread-room, in a ship, that which is set apart to hold the bread. The boards of the bread-room should be jointed and caulked, and also lined with tin plates, for the greater preservation.
preparation of the bread. It is also proper to warm it well with clothed for several days before the bread is put into it, since nothing is more injurious to bread than moisture.

Bread. *fruit tree*, in Botany. See *Artocarpus*.

Bread-nut. See *Brosimum Alicastrum*.

BREADALBANE, or Braidalbin, in Geography, a district of Perthshire, Scotland, including a tract of country measuring about 32 miles from E. to W. and 13 in its broadest part from N. to S. This mountains country forms part of the Grampian hills, and is supposed to have been anciently called Albania; whence the Highlanders ill denominate themselves Albanich; and the duke of York receives his title of Albany from this place. The name Braid-Albain, in the Gaelic tongue, signifies the highest part, which corresponds with this portion of country, as some rivers that take their rise here, run partly into the eastern and partly into the western oceans. Flax is the principal article of cultivation. Some years back, when premiums were offered for the greatest crops, from 80 to 120 hogheads of lined flax were annually sown; and each peck yielded two flaxes of dreided flax. Next to this, oats and potatoes are mostly cultivated; and from the latter some strong spirit has been distilled, which is found to be cheaper than that made from grain. Bread and barley are also made from this root. Cocon, or the hechen ophaloides, an article of commerce, is obtained in abundance from the rocks, and is sold mostly to dyers. Pennant's *Tour in Scotland*, 4to, vol. iii.

BREADTH. See *Latitude, Dimension, Area*, &c.

Breadth, Hair's. See Hair.

Breadth, Finger's. See Finger.

Breadth, Hand's. See Hand.

Breadth, in Ship-building, the breadth of a ship at any particular place, as the extreme breadth, which is the greatest breadth, being at the main frame, the top-timber breadth, the breadth at the main or running transom, &c. The breadth and curvature of all the frames are laid down on the body plan, or plane of projection; those of the fore-body being on the right hand side of the middle line, and the frames in the after-body being on the left hand side of the fame line; from whence the frames are transferred to the mould loft. See Body-Plan, and Ship-building.

Breadth-Sweep. Of these there are two: the lower and upper. The centre of the lower breadth-sweep is in the line that represents the height of the extreme breadth of the timber. If there is a part of the timber straight, the centre of the sweep will be in the lower line. From this centre extend to the point that limits the half-breadth of the timber in the same line; and with that radius describe a circle downwards, till it comes near the floor sweep. The centre of the upper breadth-sweep is in the line that represents the extreme upper height of the breadth of the timber; from which a circle must be described to pass through the point that limits the half-breadth of the timber in the same line, and produced upwards at pleasure to form the top-timber.

Half Breadth of the Floor, is the distance of the centre of the floor sweep from the middle line in the body plan at the main frame; which will always be less than the distance between the point where the straight line, drawn from the side of the keel to touch the back of the floor sweep, is from the middle line. This line may be called the true half-breadth of the floor, which in sharp ships will be above the rising line.

Half-Breadth Plan, or Floor Plan, or, as it is frequently called, the horizontal plan, contains the several half-breadths of every frame of timbers at different heights; ribbands, water-lines, &c. are also described on this plane.

Height of Breadth lines, are two lines named the upper and lower heights of breadth. These lines are described on the plane of elevation to determine the height of the broadest part of the ship at each timber; and being described in the body plan, limit the height and breadth of each frame at its broadest place. One line serves for both in the half-breadth plan.

Main half-Breadth, is a section of the ship at the broadest place, perpendicular to the floor plan, and represents the greatest breadth at the outside of every timber.

Top-timber half-Breadth, is a section of the ship at the height of the top-timber line, perpendicular to the plane of elevation.

Half-Breadth Staff, a rod about an inch square, and of any convenient length. Upon one side of this staff are set off, from one end, the several half-breadths of all the timbers in the after-body; and those of the fore-body are set off upon the other side. On the other two sides are set off the several heights of the floor; the after-body on one side, and the fore-body on its opposite. Two fides of the staff are marked half-breadths; and the other two fides, heights of the floor.

Break, in Agriculture, denotes, in Norfolk, land ploughed or broken up the first year after it has lain fallow in the sheep-walks.

In Architecture, it denotes a recess, or giving back of a part behind its ordinary range or projection. In which case, they say, a break of pediment, a break of entablatures, whereby it shrinks, as it were, between the columns, is reputed a fault.

Break, Cape, in Geography, lies on the east coast of Newfoundland, and forms the eut point of the entrance into Trinity bay, about 10 leagues southward of Cape Donsa-ventre.

Break-Sea Island, lies without the new passage or north entrance into Dulcy bay, on the west coast of the southern island of New Zealand.

Break-in, among Carpenters, is when they break a hole in brick-walls with their ripping chisels.

Break-neck, Drift-co, in Building, a fault in a stair-case, as when a step is made higher or lower than the rest, and landing-place too narrow, or the like.

Break-water, in Sea-Language, the hull of an old ship, or vessel, funk at the entrance of a small harbour, to break the force of the waves in their passage to the vessels moored within. Jetties, however, where practicable to be built, are employed for this purpose. A break-water is also a fort of a small buoy fastened to a large one in the water, when the buoy rope of the latter is not long enough to reach from the anchor, lying at the bottom, to the surface of the water. The use of this break-water is, therefore, to throw where the buoy swims.

Breakers, a name given to those billows that break violently over rocks lying under the surface of the sea. They are distinguished both by their appearance and found, as they cover that part of the sea with a perpetual foam, and produce a hoarse and terrible roaring, very different from what the waves usually have in a deeper bottom. When a ship is unhappily driven among breakers, it is hardly possible to save her; as every billow that heaves her upward, serves to dash her down with additional force, when it breaks over the rocks or lands beneath it.

Breakers' Point, in Geography, is the south-point of
of Hope bay, on the north-west coast of North America. N. lat. 49° 15'. W. long. 126° 40'.

BREAKING, in Agriculture, denotes the ploughing up of grounds, especially such as have lain some time fallow.

Breaking Bulk, the commencement of the discharge of the cargo of a ship.

Breaking spear is applied to a ship at anchor, when she is forced by the wind or current from that position in which she keeps her anchor most free of herself, and most firm in the ground, so as to endanger the tripping of her anchor.

Breaking up a ship, tripping off the planks, and taking her to pieces, when she becomes old and unserviceable.

Breaking ground, in the Military Art, the beginning of works for carrying on the siege of a place; more especially the beginning to dig trenches, or approaches.

Breaking the angles of a battalion, denotes a military evolu

tion, whereby the four angles turn, and make so many fronts towards the enemy; so that the battalion, which before was only a square, becomes an octangle, and can fire on all sides. This is otherwise called blunting the angles of a battalion; by the French, ennouffer les angles d'un bataillon.

Breaking of measure, in Fencing, denotes a moderate retaining, or giving of ground, in order to avoid the adversary's thrust. Breaking of measure differs much from going back, and losing or yielding of ground; the latter being reputed a great reproach, the former a mark of judgment and adroitness. Some pretend, that a man retiring is obliged to forbear, if his adversary call him to stand.

Breaking of the sea, Breaking of a wave, or the like, on a rock, a bank, or the like, are a sufficient indication to the pilots, that it is not safe mooring there.

Divers machines and structures have been contrived for breaking the force of wind, the stream of water, and the like.

Breaking is also used for the taming of animals, or reducing them from a wild to a tractable state.

Breaking of a horse to the saddle. See Backing, and Tracing. To break a horse for hunting, is to make him acquire the disposition and habit of running. It is a great fatigue to run horses full speed before they are broken.

Breaking herd, among Sportsmen, denotes a deer's quitting the herd, and running by itself, or splitting out from the herd for chase. In which sense, the word stands opposed to herding. A deer when close pursued, is loth to break herd. When a hart breaks herd, and draws to the thicket and coverts, he is said to harbour or take hold.

Breaking up a deer, signifies the opening or cutting it up. This term is applied to the act of cutting open the deer after the chase, that the perquisites of blood and garbage may be given to the hounds.

Breaking of prison. See Prison.

Breaking the legs, crustagium, was an appendage of crucifixion, used no where but among the Jews. See Cross.

Breaking of hemp. See Brake.

Breaking of bread, is sometimes used in Ecclesiastical Writers, for celebrating the Eucharist.

Breaking of wine, among Vintners.—Wine is said to break, when being left some time in the air, in an open glass, it changes colour; an indication that it will not keep.

This is the usual method of trying the goodness of wine, among the merchants and vintners of Paris.

Breaking is also used in trade, for a person's failing or stopping payment. See Bankrupt. Breaking betimes, while there is something left to pay withal, is a mark of honesty; and, generally, entitles the unhappy person to compassion and gentle usage from his creditors, saves his credit, and facilitates his retrieving. A late sensible writer on trade takes great pains to inculcate this precept, break early. Compl. Eng. Tradesman, vol. i. p. 77, 83, &c.

BREAKNECK, in Geography, the name of a hill in America, opposite to Butter-hill, at the northern entrance of the high lands, in Hudson river, about 60 miles N. of New York. The rocks on the southern side of the hill are so situated as to give a tolerable idea of a human face, with a nose, mouth, and double chin, without a forehead.

BREAKSPEAR, Nicholas, in Biography. See ADRIAN IV.

BREF, in Geography, a town of France, in the department of the Ille and Vilaine, and chief place of a canton, in the district of Montford; 2 leagues S. E. of Montford.

BREAK, head and bay, lie on the east side of the north island of New Zealand; the head is the north point of the bay. S. lat. 35° 45'. It has some small islands before it called the "Hen and Chickens." The name of this bay is derived from the fea-bream, with which it abounds.

BREAK, in Ichthyology. See BRAMA CYPRINUS.

Breaking, to, in Sea Language, to burn off the filth, such as grafs, ooze, shells, or sea-weed, from a ship's bottom, that has gathered to it in a voyage, or by lying long in a harbour. This operation is performed by holding kindled furze, faggots, or such materials, to the bottom, so that the flame incorporating with the pitch, sulphur, &c. that had formerly covered it, immediately loosens and throws off whatever filth may have adhered to the planks. After this, the bottom is covered anew with a composition of sulphur, tallow, &c. which not only makes it smooth and slippery, so as to divide the fluid more readily, but also poisons and destroys those worms which eat through the planks in the course of a voyage. Breaking may be performed, either when the ship lies aground after the tide has ebbed from her, or by docking, or by careening. See these articles.

BREAST, Mamma, in Anatomy. The breasts, which are two in number in the human subject, occupy the anterior and middle part of each side of the chest, and are therefore situated over the pectoralis major muscle. Each of these bodies consists of a gland, to which anatomists give the name of mamma, surrounded by cellular and adipous substance, and covered by the common integuments. In men, and in young girls, these bodies are small; they enlarge in the female subject very considerably at the time of puberty, assuming an hemispherical shape, and pretty firm consistence, which, however, is lost, as the subject advances in years.

The skin which covers these parts is white and soft to the touch, except in the middle, where there is a circular portion of a reddish brown colour, called the areola. From the centre of this projects the nipple, in the form of a cylindrical prominence, with a rounded end, similar in colour to the areola, and covered, like that part, by a more delicate continuation of the skin, which is somewhat wrinkled and irregular on its surface. Both the areola and the nipple are furnished with numerous tuberculous glands, which may be clearly seen through the integuments. The fluid which these secrete, preserves the parts from the excoriation, which they might otherwise suffer from suckling. Under the integuments, we find a considerable quantity of fat and cellular membrane, which surrounds and envelopes the mammary gland, connecting it to the skin in front, and to the pectoral muscle behind, and penetrating into its substance, so as to separate the different portions of the gland from each other.
other. It is this that gives to the breast of a well-formed female their beautiful external form. The substance of the mammary gland presents a flatish body, of a circular form, leaving obvious marks of a division into smaller portions, which cannot be completely separated from each other. It is composed of a vast congeries of small tubes, convoluted and accumulated on each other, and known by the technical name of tubuli lactiferi, or glands. These are gathered gradually forming larger and larger tubules, which approach from all sides towards the angle. The tube becomes very much contracted at the extremity, and in this place passes through the nipple, connected by a cell and inward cellular substance, to terminate on its surface by an aperture, whose size is about sufficient to admit a dog's bristle. The number of these openings is said by Rolpin and Sabatier, to be constantly fifteen: the smaller branches of the apertures, and the consequent difficulty of finding them, have led some anatomists to state their number as less than this. Mekel has found, that when the lactiferous tubes, arising from one of the openings on the nipple, were fully dilated, the mercury would pass into other sets of tubes by anatomising branches. Some anatomists, in the number of whom is our countryman Mr. Cruikshank, have contended for the existence of achial in the mammary gland, which are supposed to afford origin to the lactiferous tubes. The description just given is drawn from subjects, who have died while suckling, or near the time of parturition: at these periods the gland is called into action, its parts are developed, and its structure may be unravelled without difficulty. At other times, the lactiferous vessels become so small as to be imperceptible.

The arterial supply of the breast comes from the internal mammary, and the thoracic arteries: the veins terminate in the thoracic trunks: the nerves are derived from the dorsal pairs: the lymphatics, which may be injected with facility from the lactiferous tubes, pass into the axillary glands in their course to the thoracic duct on the left side of the body, to the right lymphatic trunk on the right side. Sometimes, however, according to the researches of Mekel, they terminate separately in the subclavian veins. On the subject of this article, the reader may consult Haller's Elem. Physiol. tom. ii. Sabatier Traite d'Anatomie, tom. ii. Rolpin de Struara Mammum, 4to. 1764.

The mammary glands secrete the milk, the nutriment of the young animal: for an account of the properties of this fluid, the reader is referred to the article Milk.

Breast, distaff of the, in Surgery. See Excoriation. Abscess, Scirrhous, and Cancer: there are the chief morbid affections to which the breasts are liable: but they may occur likewise in various other parts of the body, and require to be treated on the same common principles, allowing for the different seat of the disorder.

Breast, applied to the correspondent parts of other animals, is more properly called udders, dug, ubera, &c. Breast also denotes that cavity or region of the body by anatomists more frequently called thorax. Though, in propriety, the breast is rather restrained to the anterior part of the thorax where the ribs meet; called also sternum, and pedum in English, popularly, the bosom.

We fancy a flat, a narrow, a flint breast; a broad breast, not high, is ranked among the signs of longevity. Deflections on the breast and lungs are dangerous. Coughs, catarrhs, asthma, phthisis, peripneumonia, &c. are also diseases of the breast. See Cough, and Asthma.

Physicians also speak of a dropp of the breast, hydrops pectoralis. See Dropsy.

Medicines for disorders of the breast are called pectorals. See Pectoral.

Smiling the breast is one of the expressions of penitence. In the Roman church, the priest beats his breast in rehearsing the general confession at the beginning of mass.

Breast-lock. See Sternum.

Breast of a chimney, denotes the fore-part under the mantle or chimney piece, commonly made inclined.

Breast-plate, a Sea Term, a fort of hauteur, or large rope, employed to confine a ship side-ways to a wharf or key, or to some other ship; as the head-falk confines her forward, and the stern-falk, abaft.

Breast-hooks, in Ship-building, are thick pieces of timber, incurvated into the form of knees, and used to strengthen the fore-part of the ship, where they are placed at different heights directly across the stern, so as to unite it with the bows on each side. The breast-hooks are strongly connected to the stem and hawse-pieces by tree-nails, and by bolts, driven from without, through the planks and hawse-pieces, and the whole thickness of the breast-hooks, upon whose inside those bolts are fore-locked, or clinched, upon rings. They are usually about one third thicker; and twice as long as the knees of the decks which they support. The fore-side of the breast-hooks, which is convex, is formed so as to correspond with the place in which it is situated; that is to say, it conforms exactly to the interior figure of that part of the bow where it ought to be fastened; accordingly, the branches, or arms of the breast-hooks, make a greater angle, as they are more elevated above the keel, whilst the lower ones are more incurvated. As it is not necessary that the inner, or concave side of these pieces should retain a regular form, the artificers frequently let them remain as thick as possible, to give additional support to the fore part of the ship, where it sustains the whole shock of resistance in dividing the fluid, or in plunging down into it. It is evident, that the connexion and solidity of the ship in this place, will be reinforced in proportion to the strength and extent of the breast-hooks, so that they may cover a greater number of the head timbers.

Breast-pain, called by the Italians grandezza di petto, is a distemper in horse's proceeding from superfluity of blood and other gross humours, which being disdissolved by some extreme and disorderly heat, return downward to the breast, and pain them extremely.

The signs of the breast-pain are, stiff, staggering, and weak-going with his fore legs. Besides that he can hardly, if at all, bow his head to the ground.

Breast-plate, in Antiquity, a piece of defensive armour, wherewith to cover the breast.

The breast-plate is laid to be the invention of Jason. It was originally made of leather, afterwards of mail, and finally, of a brass or iron-plate. When made of this last matter, there is more particularly called rhinna, by the moderns cut-asis; when made of brass, with a Gorgon's head in the middle, it is denominated agis.

The breast-plate, called also by the Romans pectorale, is frequently confounded with the thorax and loricæ; from both which it ought to be distinguished, as being properly a half-thorax, or half-loricæ, covering only the breast; whereas the thorax invested the body.

As the whole thorax might be a temptation to the soldiery to turn their backs, when equally guarded with their breast, the thorax was thrown away, and the hemi-thorax, or breast-plate, only retained. Polyb. Stratag, lib. vii.

Breast-plate, in Jewish Antiquity, one of the priestly vestments anciently worn by the high-priests. It was a folded piece of the same rich embroidered taffie with that of the epishat, having set upon it twelve precious stones in gold, on
each of which was engraved the name of one of the tribes. These were set in four rows, three in each row; and the whole was fastened at the four corners; those at the top to each shoulder-piece by a golden hook or ring, at the end of a wreathed chain; and those below to the girdle of the ephod, by two blue rings or ribbands, which had likewise two rings and hooks; so that the whole might be tied fast to the garment, without danger of falling off; for they were never to be removed. The Jews say, that if the high priest did, at any time, either through inadvertency, or wilfully, put on one without the other, he was to be punished: hence this ornament was called the **memorial**, to put him in mind how dear those tribes ought to be in his estimation, whose names he wore over his breast. This is also called the breast-plate of judgment, because it had the divine oracle fastened to it. Thus, however, most interpreters have understood the command of God to Moses of adjoining the urim and thummim to the breast-plate. The stones of the breast-plate were divided from one another by the golden partitions into which they were set, and were ranged in the following order, to which the Hebrew names are added, together with the tribe that was engraved on each of them:

<table>
<thead>
<tr>
<th>No.</th>
<th>Hebrew Name</th>
<th>Stone</th>
<th>Tribe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Odem</td>
<td>Sardius</td>
<td>Ben</td>
</tr>
<tr>
<td>2</td>
<td>Phiterah</td>
<td>Topaz</td>
<td>Simeon</td>
</tr>
<tr>
<td>3</td>
<td>Barkeith</td>
<td>Carbuncle</td>
<td>Levi</td>
</tr>
<tr>
<td>4</td>
<td>Nophick</td>
<td>Emerald</td>
<td>Judah</td>
</tr>
<tr>
<td>5</td>
<td>Saphur</td>
<td>Sapphire</td>
<td>Dan</td>
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<tr>
<td>6</td>
<td>Jabolom</td>
<td>Diamond</td>
<td>Naphtali</td>
</tr>
<tr>
<td>7</td>
<td>Leshem</td>
<td>Ligure</td>
<td>Gad</td>
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<tr>
<td>8</td>
<td>Shebo</td>
<td>Agate</td>
<td>Asher</td>
</tr>
<tr>
<td>9</td>
<td>Achlamah</td>
<td>Amethyst</td>
<td>Issachar</td>
</tr>
<tr>
<td>10</td>
<td>Tarihith</td>
<td>Beryl</td>
<td>Zebulun</td>
</tr>
<tr>
<td>11</td>
<td>Shothem</td>
<td>Onyx</td>
<td>Joseph</td>
</tr>
<tr>
<td>12</td>
<td>Yadhphes</td>
<td>Jasper</td>
<td>Benjamin</td>
</tr>
</tbody>
</table>

**Breast-plate**, in the Mesopotamian, denotes a leathern strap running from one side of the saddle, across the horse's breast, to the other; intended to keep the saddle from slipping backwards in mounting up rising-grounds. It is otherwise called a **ree**, sometimes the **pontil**.

**Breast-plate**, among Artificers, denotes a drill-plate, against which to let the blunt end of the drill.

**Breast-plough**, in Agriculture, a small plough so constructed, that a man may push it before him. It consists of a cutting-iron about eight or nine inches long, with one of its sides turned up to cut the turf, which is fixed to a pole about five or six feet long, forked at the upper end, with a cross handle. It is used in the operation called **burn-laying**.

**Breast-rail**, in Sea-Language, the upper rail of the balcony, or of the breast-work on the quarter-deck.

**Breasts of a saddle**, are part of the bow, being the two sides of it down from the arch or upper part.

**Breast-work**, in the Military Art, is an elevation thrown up around a fortified place or fort, to conceal or protect the garrison, and which is at the same time so formed that the enemy's shot cannot pierce through it.

The terms breast-work and parapet are frequently used indiscriminately; but the former is more applicable in a general sense, a parapet implying more immediately that which is raised upon the rampart of a fortified town. See **Parapet**.

A breast-work is usually formed simply of earth, not only because it may be procured with the greatest ease, and with the least expense, but also because it is liable to fewer objections and difficulties than such as occur in the use of other materials; for if the breast-work was made of stone or wood, the garrison would be liable to have more men killed and wounded by the splinters struck off by the enemy, than by his shot. The fliffer the earth, the better it is for the formation of a breast-work; a if it adhere well, together, and destroying the force of the balls which penetrate it better than any other. A soil of loam or clay is, therefore, to be preferred to all other kinds of earth. In rocky or marshy ground, a covering may be formed of wood-logs, dung, brush-wood bound together, or fascines.

With respect to the height of a breast-work, it should be such that a soldier, standing behind it, cannot be seen by the enemy. If, therefore, the garrison and the enemy are on the same level, the height of six feet is sufficient to cover the defenders; but if the enemy is on a higher ground something must be added; and, in this case, the principles of geometry will easily determine how much it must be augmented in each particular instance, according to the distance of the enemy from the breast-work, the place behind it in which the garrison is to be covered, and the elevation of the ground on which the enemy is posted. If the garrison stands on higher ground, the breastwork need not be six feet high, and the more the garrison is elevated, the lower the work may be. It is here also easy to determine the necessary height, by only considering the intention of the breast-work, which is at all times to shelter the soldiers placed behind it from the fire of the enemy's cannon and small arms. A breast-work should be so strong that the enemy's shot cannot entirely penetrate it. To resist the most powerful attack of field artillery, the thickflaps should be at least 18 feet of good soil, and from 22 to 24 feet in bad. This is the case in actual fortification; but in works called up in the open field, often in the greatest haste, and where we expect to be assaulted only by field pieces, a thickness from 10 to 12 feet is perfectly sufficient. If it is intended only to hold out against insult; or, if the work is erected only for the purpose of concealing the troops behind it, from three to six feet is ample thickness.

If the breast-work is formed of earth, each side must make an acute angle with the horizontal base of the work, otherwise it would fall down. These oblique sides are called the **interior and exterior spires** or **tahs** of the breast-work. As good earth will yield firmer than bad, the base of the spire may be no larger than a chasal or in a sandy soil. Experience shows that good earth will yield when the base of the slope is only equal to half the height; but that bad earth requires a slope equal to the whole height; therefore, when other reasons do not render it necessary to vary from this rule, it may be looked upon for earthwork in general, that if the soil is very good it should be equal to half the height; if middling, to two thirds; and if very bad, the base must be equal to the height. The interior spire should be kept as small as possible, for the convenience of the troops posted behind the breast-work. It is, therefore, usual to make the base on one sixth of the height; and to retain the interior side from falling, a revetment of fascines, hurdles, fods, or even a flone wall, may be made use of. Of these, fascines and hurdles, from the cape with which they are procured and constructed, are the most advantageous in the open field. In a permanent fortify, the inner side of the parapet should be formed of fods. As for revetments of board, or stone, they should never be used in the field, because the former become rotten, and the splinters of the latter might greatly annoy the garrison. The exterior spire, being more exposed to the enemy's fire, is sooner liable to fall, and requires therefore a larger base; but the smaller this is kept, the more difficult it is for an enemy to climb. For this reason, it should always be as narrow as the nature of the soil will allow. If it has a revetment, the rules given
given for the interior slope apply equally to this, except that boards and stone are not here to dangerous to the garrison.

That the troops thus protected by the breast-work may be enabled to fire on the enemy without obstruction, an elevation of earth, called a banquette, is made immediately behind it, which the soldiers mount when they are to fire. This should be raised until the height of the breast-work above is about four feet two inches; that the soldier standing upon it may make use of his arm properly, and fire conveniently over.

If the height of the breast-work is six feet, that of the banquette will accordingly be one foot two inches; and if the breast-work is higher, the banquette must also be raised. To render the ascent perfectly easy, its slope should be very broad, at least equal to, or even double its height. The breadth of the banquette should be three feet or more, according to the number of ranks in which the men are drawn up. The upper surface, summit, or crown of the breast-work, must be made with a declivity towards the country, otherwise when the enemy is advanced within a short distance, he cannot be hit from behind the work. The difference in height between the slopes depends on the thickness of the work. If this is 24 feet, the exterior talus may be two feet lower than the inner; if the breast-work is weaker, the difference must be proportionally lessened. If an eminence, it will be necessary to give the superior slope a greater declivity. Its proper inclination may be easily determined, only taking care that the fire regulated by it is not confined to a single point on the ground, but extends as much as possible. When the breast-work has no exterior slope, but the summit is continued outwards until it meets the surface of the ground, it is a perfect glacis. In this case the base must be much broader than that of a common breast-work; otherwise the work would be too weak, and the slope so steep, that the fire acting in that direction instead of grazing, would bury itself in the ground. Two advantages are derived from a glacis: every point in front of it is exposed to the small arms of the garrison, which is not the case in any other kind of breast-work; and it cannot be destroyed by the enemy's shot, which only strikes into it, the loose earth remaining in its proper place; but it is attended with this disadvantage, that it may be mounted without difficulty.

When cannon are planted behind a breast-work, they may either fire en barbettes, or through embrasures. In the former case, instead of a banquette, an elevation of earth is formed sufficiently large to contain guns mounted on their carriages, and of such a height that their muzzles may reach above the summit. This elevation must be carried to within two and a half, or three feet from the top of the work, and sufficiently broad to afford convenient room for the gun and men attached to it. About ten or twelve feet are allowed for each piece of cannon. The length should be from twelve to eighteen feet, according to the gun, that space may be left behind to prevent its running down in the recoil. An easy slope, called a ramp, is made to every battery of this nature, that the guns may be run up without difficulty. This method, however, is only safe when the enemy cannot bring artillery against the breast-work, or when posted on an eminence; and even then we should endeavour to cover the artillerymen with gabions or sand-bags placed upon the work, leaving an opening of 1 1/2 or 2 feet between them for the month of the cannon. If two or more rows of gabions are placed one before the other, the opening must increase in width towards the front, that we may be enabled to point the gun to either side, as well as directly forwards. When the guns, and men who serve them, are much exposed to the enemy's fire, embrasures are to be cut for them. When several pieces of cannon are placed behind a work, their distance abater should be from 12 to 20 feet. The piece of the breast-work which remains standing between every two is called a merlon. As it is to be expected that the enemy will direct his principal fire against the batteries, the merlons ought to be very strong, and constructed with attention; and as musketry are not used behind them, they may, for the better security of the gunners, be made eight or nine feet high.

To procure the earth for the formation of the breast-work, a ditch is made on the outside of it, by which the enemy has an additional obstacle to overcome in his attempts to approach. In some cases the ditch is behind the work; as, for example, on a very steep hill, where a fosse in front would not render the enemy's endeavours to climb it more difficult, and it is more convenient to make use of the earth within the breast-work. The ditch is made sloping on both sides. The inner slope is called the scarp, and the outer the counterscarp. The width of their bases is determined by the nature of the soil; but to give the enemy all possible trouble in getting in and out of the ditch, both slopes should be as steep as the tenacity of the ground will allow. If the scarp forms one continued surface with the exterior slope of the breast-work, the enemy has the greatest difficulty in gaining the summit; but as the scarp in this case subsists too great pressure, it would soon give way, and a considerable part of the work with it. Even should the scarp stand firm, the earth must constantly fall from the breast-work into the ditch, and fill it up to our great disadvantage. To prevent this, the breast-work is thrown up at a small distance from the edge of the ditch, thereby leaving a free passage between them, called a berme. This certainly facilitates the enemy's mounting the breast-work; but to diminish this disadvantage, it should be made as narrow as possible. The size of the ditch is regulated by that of the breast-work. The requisite quantity of earth may be procured equally, whether the ditch is wide and shallow, narrow or deep; but the removing it is easier by the latter mode, and the enemy will also have greater difficulty in crossing the ditch. In low ground, however, this cannot always be done; and the ditch must at all times be sufficiently broad not to be leaped across. It is usually 10 or 12 feet wide; and, wherever the situation allows, at least 5 feet deep; but if those dimensions will not furnish the necessary quantity of earth, an augmentation must be made either of the width or depth, and sometimes of both.

A breast-work, constructed according to the foregoing rules, covers our garrison against the fire of an enemy, and enables us to fire on him with tolerable security during his march towards it. Notwithstanding this, if he is resolute, and not to be deterred by the loss of a few men, and as there is no particular difficulty in surmounting the ditch or breast-work, we have ultimately no superiority over him, and must therefore have recourse to other obstacles to impede his progress. These are natural and artificial. Certain natural obstacles render the access to a place extremely difficult; such as when the breast-work is behind a river, canal, or morasses, too deep for the enemy to wade through; or when it is situated in rocky ground, or on a high and steep hill which cannot well be climbed by a body of men in any regular order. Here there is no absolute necessity for a ditch; and provided the breast-work covers us from the enemy's fire, it may be considered as perfect. Artificial obstacles are, 1. Palisades, which may either be fixed in the open field in front of the ditch, or in the ditch itself, sometimes in two rows, or laillly upon the banquette, where they occasion excessive inconvenience to the enemy, and afford essential protection to the garrison. 2. Frolies, buried in the exterior slope of the breast-work, their points inclining a little downwards. Where there is also a row
of palisades upon the banquette, these occasion much ob-
friction to the enemy in his endeavours to mount. 3. Che-
vaux de friz, planted along the middle of the ditch, where
they render the passage extremely difficult, especially if
they stand behind a row of palisades. 4. An abatis of
trees cut down and arranged on the outside of the ditch,
along the whole front of the work. When the branches
are well intermingled, and the trunks buried obliquely
in the earth, or fastened down by iron pickets, they cannot
be removed without great difficulty. The abatis should
lie under the fire of the breast-work, and therefore ought
not to be more distant from it than 200 or 250 yards.
5. Trous de loup placed chequerwise in front of the work,
about 16 or 20 feet from the counter-scarp. Three rows
of them present at all times a formidable obstacle, as they
cannot be passed except by each man singly, which causes
the enemy to remain a long time exposed to the fire from
the breast-work, and to form under it at a great hazard.
6. Crowns' feet scattered along the bottom of the ditch,
or in the ground in front of it; or, where they are wanting,
a number of flakes, capped and pointed with iron, may
be driven into the ground. 7. An advanced ditch about 30 yards
in front of the first. This, if filled with water, or embanked
from the breast-work, presents a considerable obstacle; but,
otherwise, only affords the enemy a place of shelter, where
he may rest some time in security, and from thence make
the remainder of his way to the work in great haste, so that
it becomes a detriment instead of an advantage. 8. An
artificial inundation of the country in front of the work,
effected by means of dams. This, if five or six feet deep,
and properly under the fire of the garrison, is an amazing
and obvious advantage; but the work is so laborious, and
requires such a combination of circumstances to render it
effectual, that it is rarely executed in the field. 9. Fou-
gaffis, or small mines, placed about eight or twelve yards
from the ditch, and sprung when the enemy is marching over
them towards the breast-work. These occasion great dis-
order; and as soldiers have a great dread of mines, and
anxiously avoid an attack upon any spot they conceive
undermined, are an excellent security against the attacks of
a superior enemy.

Previous to the elevation of the breast-work, its entire
plan must be traced or marked out upon the ground, in
such a manner that the workmen may afterwards be enabled
to calculate the thickness of the work and breadth of the
foffe. In computing the length of the breast-work, two
feet are allowed for each file of men; and as troops are
usually formed two deep for its defence, the length will be
equal to the number of men; ten feet are allowed for a
small gun, and fourteen or sixteen for a larger. Thus the
length of a breast-work for 250 men, and four field-pieces,
should be 290 feet. In excavating the ditch, three work-
men are allowed to every eight feet in length; and when
in a clayey or gravelly soil, to every three men with tholeves,
one with a pick-axe should be reckoned, to loosen the
ground. The breast-work itself, and every thing imme-
diately belonging to it, should be erected entirely by the
troops. A work with a revetment of lofs may in general
be completed in a day, provided there is a sufficient num-
ber of workmen. But if it is to be formed with fascines, or
palisaded, it will require two days; and if there be likewise
to be frizis, fougaffis, trous de loup, &c, three may not
be sufficient. Under the articles Rampart, Fosse, Rev-
tement, Fascines, Fougaffes, Palisades, &c, the
reader will find the construction of the different parts of
a breast-work more fully explained.

In Plate IV. Fortification, fig. 1. a, b, c, is the banquette; c,
d, the interior slope or talus; e, f, the summit of the breast-
work; f, g, the exterior slope or talus; j, g, the berme; p, k, the
scarp; l, i, the fosse; k, l, the counter-scarp; m, the
glacis.

Fig. 2. is a breast-work frizised and palisaded, seen in
profile; a, is a row of palisades planted upon the banquette;
b, another of fougasss, buried in the exterior talus of the
breast-work; c, chevaux de frize in the middle of the ditch
behind d, a row of palisades, fixed at the foot of the coun-
terscarp; e, trous de loup; f, abattis of trees, seen in
profile.

Fig. 3. is a plan of the breast-work; a, is the slope of the
banquette; b, banquette; c, interior talus; d, breast-work;
e, exterior talus; f, berme; g, scarp; h, fosse; i, counter-
scarp; k, trous de loup in three rows; l, abattis.

Breast-work, a Six-term, a list of framing composed of
fianchions and rails, with moulding, and sometimes sculpture.
It terminates the quarter-deck and poop at the fore-
mast end and the after-end of the forecastle.

Breath, the wind or air which is received and ex-
pelled by the mouth and nostrils, in the act of respiration.
In which sense, the word amounts to the same with the
Greek σαπός, and Latin spirītus.

A flinking breath is one of the symptoms usually preced-
ing the access of an intermittent fever. In some persons,
a flinking breath is an indication of the menas being at hand.
It is disputed among the civilians, whether a flinking breath,
called spirit, owing to rotten teeth or gums, should be re-

Breath is more particularly used to denote a strength of
lungs, whereby a man is enabled to hold out without taking
wind for often. In this sense, we say, a long, a short breath.
The ordinary term of holding the breath does not exceed one

For the pearl fisheries they choose slaves who have the belt
breath, or can continue the longest under water without
fetiching their breath. Pechlin has a dissertation express
living long without breathing. J. Nic. Pechlin De Aeras
& Alimenti Defectu, & Vita sub Aquis diuturna, Meditatio
Joel Langelot, 1676. The ancients were very watchful
over the last breath of dying persons; which the nearest
relations, as the mother, father, brother, or the like,
received in their mouths. Pufh. Lex. Antig. voc. Spiritus.

Breath is also sometimes extended to the odorous ef-
fluvia of plants, and even exhalations of minerals.

Breathing. See Respiration.

Fighting a cock to breathe him, is called Sparring.
To breathe a running horse, and bring him to his wind,
they gave him a Heat.

Breathing, exsuffatio, a ceremony in Baptism.
Breathing, short. See Asthma.

Breathing, difficulty of. See Dyspnea.

Breaute', in Geography, a town of France, in the
department of the Lower Seine, and chief place of a canton
in the district of Le Havre, 31 leagues N.E. of Montvil-
liares.

Brebes, Brebers, or Berbers, a denomination that
distinguishes an ancient tribe of Africans, who are settled
in and about the greater and lesser Atlas, and who inhabit
different parts of Algiers, Barbary, and Morocco. Some
suppose that they are descended from the ancient Sabaeans,
who migrated thither from Arabia Felix, under the conduc-
t of one of their princes; others believe them to be some of
the Canaanites, whom Joshua drove out of Palestine. But
their origin is uncertain. It is probable, however, that they
were very ancient inhabitants of the country, and that they
were compelled by the Arabs or Saracens, who overran the
western part of Africa, about the middle of the seventh cen-
tury, to seek a late retreat among the vall ridges of almost
infrangible mountains which extend through several parts of
this immense country. Whatever be their origin, they are
dispersed over Barbary, to which they are supposed to have
given its name (Barbary), and divided into a multitude of
tribes, under their respective chiefs; most of them inhabit
the mountainous parts; some of them range from place to place,
and live in tents or portable huts, others in scattered villages,
averaging, generally, all intercourse with other nations.
There are reckoned the remnant of all the various inhabitants
of the country; and they carry on a much larger traffic of
trade, hides, wax, honey, iron, and other commodities;
they have likewise some artificers in iron, and weavers.
The Brabes and the Moors form the two principal classes,
comprehending the different tribes that people the empire of
Morocco. The Brabes, as well as the Moors, adopted, with-
out doubt, the Mahometan religion, analogous as it was
to their manners and prevalent customs, on the first invasion
of the Arabs; but they are ignorant, and pay little regard
to any of the precepts of their religion, except to that which
inspires them with a hatred for others of a different profes-
sion. Mahometanism, however, has not affected the ancient
habits and prejudices of these people; for they eat swine's flesh,
and, in those places which have vineyards, drink wine;
elleging, as an apology, that it is of their own manufacture.
In the southern parts of Mount Atlas, they preserve it in earthenjars,
and in barrels made of the trunks of hollow trees, the butt-
ends of which they spread over with pitch, thus keeping it in
caverns, and even in water. In the province of Rif, toward
the north, they give it a slight boiling, which deprives it
of its fumes, and makes it less intoxicating; and perhaps,
they also think, that it is thus rendered congenial to the
spirit of the Koran. Bred in their mountains, the Brabes
maintain their retreat against the Moors, whom, com-
forting with the Arabs, they regard as usurpers.
In these asylums they contrive a ferocity of character and
strength of body, which render them more proper for war
and labour than the Moors of the plain generally are;
and the independence they profess imparts more of character
to their countenances, which is visible to those who reside
long among these nations. Although they are subject to the
emperors of Morocco by religious prejudices, they set aside
his authority whenever they think proper; and, intertreched
in their mountains, it is difficult to attack and vanquish them.
The Brabes have a language of their own; and they never
marry but among one another. They have tribes or castles
among them, which are exceedingly powerful, as to both
their number and courage. Such are those of Gomera
on the borders of Rif, of Gayfian towards Fez, of Timeo ex-
tending along Mount Atlas from Mequinez to Tedia, of
Shavoya from Teld to Diquella, and of Miliboya from
Morocco to the south. The emperor of Morocco retains
the children of the chiefs of these tribes at court as hostages
for their fidelity. The Brabes have no distinction of drets;
they are always clothed in woollen like the Moors; and,
though they inhabit the mountains, seldom wear caps.
These mountaineers, as well as their wives, have very fine
teeth, and exhibit signs of vigour, which distinguish them
from the other tribes. They commonly hunt lions and
tigers; and the mothers have a custom of decorating their
children with a tiger's claw, or the remnant of a lion's hide
on the head, thinking that they thus acquire strength and
courage. Similar superstition, without doubt, induces young
wives to give their husbands the same sort of amulets. The
Brabes and the Sheelu, having a language common to them-
elves, and unknown to the Moors, must both have had the
same origin, notwithstanding the difference that subsists in
their respective modes of life. The Sheelu live on the frontiers
of the empire towards the south; their population is by no
means so great as that of the Brabes, nor are they so ferocious;
they do not marry with other tribes; and, though they practice
many superstitious rites, they are faithful adherents of their
religion. The Brabes count the days of the week in the same
manner as the Moors, and both of them employ Arabic words.
The Sheelu enumerate the days after the same method, but in
their own language. Both the Brabes and Sheelu denote the months of the year like the Moors
and the Arabs, and date from the same era, or the year of the
Hegira. The Koran, and books of prayer of the
Brabes and Sheelu, are in Arabic; and so are their acts and
title-deeds, which are written by their Tailors, or learned men.
Cherici's Morocco, vol. i.

BREBEUF, GEORGE de, in Biography, a French poet,
was born at Tierogny, in the Lower Normandy, in 1618,
and studied polite literature at Caen and Paris. During
his residence at Rouen, where he lived several years, he pub-
lished, in 1676, a parody on the 7th book of the Iliad,
and the first book of Lucan travelled, which latter work
was intended as a satire against the titled vanity of great
lords, and the servile flatterers of their flatterers. He after-
wards laid the foundation of his celebrity by a translation
of Lucan's Pharsalia, which first appeared in 1678. Although
this performance was cenured on account of its dazzling
and hyperbolical sentiments, and inflated language, and of its
consequent tendency to corrupt the taste of young per-
sons, it possessed the attractions of a rich style and famous veri-
fication, and became fashionable even at court, where cardinal
Mazarin excited the hopes of the author by various promises,
which his death prevented from being fulfilled. Disap-
pointed in his expectations from other patrons, he retired to
Venoix near Caen, where he died in 1661. His charac-
ter was modest and gentle; and the last years of his life were
spent in pious exercises, of which we have a specimen in his
"Entretiens Solitaires," a collection of religious poems, in-
ferior in merit to his other performances. A collection of his
poetical works was published in two volumes, containing,
among other pieces, 152 epigrams, written in consequence
of a wager on the single subject of a lady's painting. He
was likewise the author of "Poetical Eulogies," and a

BREBIETTE, Peter, a painter and engraver, who
flourished in 1625, was born at Monte upon the Seine, in
France, and acquired some eminence as a painter; but as an
engraver he is well known. His etchings, which are
spirited, evince genius, and great fertility of invention. His
compositions abound with figures, which, though not cor-
rectly drawn, are well grouped, and executed in a matter-
ly manner. Among others are the following: "St. George's
Martyrdom," from Paul Veronese; "Paradise," from old
Palma; "A holy family, with St. John, whose foot is
upon the cradle," from Raphael; the "Virgin kneeling
by the side of Christ," attended by two angels, from a
design of his own; the "Battle of the Lapithæ," and the
"Death of the Children of Niobe," from his own designs.
Strutt.

BREDINCE, or Bourbince, in Geography, a river of
France, in the department of the Saone and Loire, which
issues from the lake of Longpseud, in the district of Mont-
cenis, and joining the Arroux, discharges itself into the
Loire, near Digoin.

BRECCA, from the Fr. breche, in some ancient deeds, is
used to denote a breach or decay. See Breach.
BRECCIA. The term breccia was invented by the Italian naturalists and builders, to denote those varieties of marble which are composed of angular fragments cemented together by calcareous spar, or any other natural calcareous cement of a different colour from the fragments. Some French mineralogists have adopted the word, but have considerably extended its meaning. By breche they understand any mineral aggregate composed of angular fragments, cemented together into a compact mass, and divide it into sub-species from the nature of the fragments; hence they have calcareous breche, siliceous, argillo-calcareous, magmagnan, &c. The breche, therefore, of the French differs from porphyry in the compacted pieces not being crystals, but merely casual fragments, and from conglomerates (a term borrowed from our pudding-stone), in the pieces being angular instead of rounded.

BRECEY, in Geography, a town of France, in the department of La Mance or the Channel, and chief place of a canton in the district of Arraches. The town contains 2097, and the canton 9061 inhabitants. The territory includes 1352 kilometres and 17 communes.

BRECHEN, Lower, a small town of Germany, in the circle of the Upper Rhine, and electorate of Treves, surrounded with walls, and made a town in 1369: 16 miles W.S.W. of Wetzlar, and 78 E.N.E. of Treves.

BRECHIN, an ancient and large town of Forfarshire, Scotland, is seated on the declivity of a hill, and consists of one large, two smaller streets, with a detached row of houses at the foot of the hill. This royal burgh, in conjunction with four others, sends one member to parliament. It was formerly a rich bishopric, founded by David I. about the year 1150, and at the reformation its revenues in money and kind amounted to 700l. a year. The Culdee's had a convent-house, whose abbots witnessed the grant made by king David to his new abbey at Dumferline. Some ruins of this house still remain, in a place called the College Wynde. An hospital was founded here by William de Brechin in 1256, of which some fine ruins were standing in the time of Mr. Pennant. Here was also a cathedral church, which has suffered much dilapidation, but its southern aisle is converted into the parish church. At its north-western angle is a handsome square tower with a short steeple, and near the southern side is a singular round-tower. This ancient structure corresponds with many similar buildings in Ireland; and it is remarked by antiquaries that they are peculiar to that island and Scotland, though only two remain in the latter country. Their origin and appropriation have never been satisfactorily accounted for, though many ingen-ious dissertations have been written on them by different learned antiquaries. The height of this at Brechin, from the ground to the roof, is eighty feet; the inner diameter, near the bottom, eight feet; and the thickness of the walls seven feet two inches. At the top its diameter is seven feet eight inches, and its circumference forty-eight feet. The top has been covered in, and terminated with a small spire, which has four windows. Near the top of the tower are also four original windows, and towards its bottom are two arched recesses, ornamented with religious sculptures; among which are the Crucifixion, with figures of the virgin Mary, St. John, &c. See Tower, round. Archologia, vol. ii. 83. Ledwich's Antiquities of Ireland.

Brechin had formerly its baronial castle, which was built on an eminence a little south of the town. It underwent a long siege in the year 1303, when it was gallantly defended against the English under Edward III. by its brave governor Sir Thomas Maule, who, after twenty days resistance, was slain by a stone cast from an engine, and the garrison immediately surrendered. This town is also remarkable for a battle fought here in the great rebellion in 1452.

The trade of this place consists principally in linen and yarn, which gives employment to many of the poor women. Here is also a bleach-field, and a considerable tannery. Brechin is 64 miles N.E. from Edinburgh. Pennant's Tour in Scotland, vol. vi.

BRECHT, a town of the eastern part of Brandenburg, now the French department of the Deux Noyes, and chief place of a canton, in the district of Anvers or Antwerp. The town contains 3412, and the canton 8800 inhabitants; the territory comprehends 2554 square kilometres, and 87 communes.

BRECKBERG, or Beringden, John, in Biographia, a painter of landscapes, conversations, and portraits, was born at Haarlem in 1637, according to Houbraken, but according to D. campenhout, in 1643, and studied after nature on the borders of the Rhine, where he sketched those views which he proposed to introduce into his landscapes. Having made himself a competent master in this style, he studied and practised the painting of figures, taking his models from nature. His subjects, however, were of the lowest kind, such as boors, husbandmen, shepherds, and inn-keepers, introduced into his landscapes, and represented also at their feasts, dances, or conversations, which he composed in the manner of David Teniers. His pictures were well handled, and agreeably coloured; and some of them were much esteemed. Ambitious of visiting the court of the elector palatine, who had been represented to him as a magnificent patron of persons of his profession, he accompanied his brother Gerard thither; but being at a loss for a proper introduction, he and his brother finished two pictures, in which they painted the portraits of the elector, and of his principal attendants, which were striking engravings, as they had observed them in the chase; and they then prevailed with an officer of the household to place them in a gallery, through which his highness always passed on his return from hunting. The fratsagem succeeded; as the prince observed them with surprize and satisfaction; and the artists were ordered to be brought to court, where they were honourably received, paid liberally for their works, and presented, among other donations, with two medals of gold. Job died in 1698. Pilkington.

BRECKBERG, or BERINGDEN, GERARD, brother of the preceding, was born at Haarlem in 1615, and painted many pictures in concurrence with his brother; but his usual subjects were views of churches, convents, nobleman's houses, and magnificent structures, which he adorned with small figures designed after nature, and intended for his compositions. His works were much esteemed; but as he was advancing to reputation, he was unfortunately drowned in a canal on his return home from an evening party of friends. This event happened in 1693. Pilkington.

BRECKFELD, in Geography, a town of Germany, in the circle of Westphalia, and county of Mark; 26 miles N.N.E. of Cologn.

BRECKNOCK, a township of America, in Lancaster county, and sole of Pennsylvania.

BRECKNOCK, or BREECKNOCK, is the principal and county town of Brecknockshire, South Wales. It is situated in a most romantic part of the country on the banks of the rivers Usk and Hodny, whence its ancient name was Aberhodny. During the days of chivalry and papacy here were a castle and a monastery, both of which appear to have been extensive and important. They were built in the reign of Henry I. by Bardsar de Newmark, a Norman lord, who obtained great possessions in this part of the country, and perpetuated his name by founding several religious houses. This town was particularly distinguished by.
by his institutions; among which were two priories appropriat
ed respectively to Benedictines and Dominicans. One of
these was converted into a college by Henry VIII., and the
principal building of the other is now a parish church. The
remaining fragments of the college prove that it has been an
extensive and grand pile of building. Part of the keep, and
a tower called Ely-tower, still remain. The latter is so
named from Dr. Morton, bishop of Ely, who was confined
here by order of Richard III., where, in conjunction with
his keeper, the disappointed duke of Buckingham, they
planned the union of the two houses of York and Lancaster,
and the succession of Henry VII. Their plan was com-
dpletely digested, and eventually brought to a successful	terminating, though the projectors of it experienced very oppo-
site fates. The duke, who was the most active in this trans-
action, was detected, seized, and executed; but the more
fortunate bishop escaped from the castle, kept quiet, and
lived to become, in the ensuing reign, a privy councilor,
and was further advanced to fill the metropolitan seat of
Canterbury. The castle is divided from the town by the
river Hodny or Hundy. Its main body, with all the princi-
pal parts, are still to be traced, though the tower just men-
tioned is the only large mass of building that remains to
characterize its architecture and gloomy dignity.

Brecknock was formerly surrounded with an embattled
wall, and entered by four gates, named, according to their
respective situations, East-gate, Well gate, High-gate, and
Water-gate. There was also another gate in the suburb,
called Porttherne S. Marie. The town confiils, at present,
of three principal spacious streets, and, according to Mr.
Malkin's statement, “is one of the best built in Wales,”
though some of the smaller streets, occupied by poor inha-
bitants, are “miserably deficient in general arrangements.”
The trade, though not very considerable, is progressively
increasing since the completion of its canal; and some ma-
ufactures of woollens and hats are established on a respect-
able scale. “Brecknock,” observes Mr. Malkin, “appears
in most respects to be a very desirable residence, and is much
inhabited by clergy and gentry of independent fortunes.

The number of spacious and modern-built houses is greater,
in proportion to its size, than perhaps in any town of Wales.
The markets are well, but not very cheaply, supplied. The
broken summit of the mountains round, continued into
Monmouthshire in regular lines; the dismantled towers of
Aberhodny, with its mouldering walls in wild and various
ruins, while the picturesque compactness of the modern
buildings is favourably concealed, render this one of the most
striking situations, near any town in the principality.” The
situation of the priory and castle, with the secluded and in-
teresting walks formed near these ruins, are peculiarly de-
lightful, and invariably attract the attention and admiration
of all strangers. Brecon is a borough, and returns one
member to parliament.

Here were buried the three bishops of St. David's, Main-
waring, Lucy, and Bull. In the town and its vicinity have
been found several Roman antiquities, with coins, &c. and
some large intrenchments are to be seen on the neighbouring
hills; but the most remarkable fortification is Y-Gaer, about
two miles N.W. from the town. This was probably occu-
pied, if not made, by the Romans. It is seated on a gen-
tle eminence, overlooking the river Usk; parts of its walls
remain; and within the area of the camp some Roman
bricks have been found, similar to those at Caerleon, with
the inscription LEG II AUG. Contiguous to the camp,
in the middle of a highway, is a rude carved pillar, about
six feet high, called Men-y-Marian, or the Virgin's
Stone. Another fragment of Roman antiquity is a tepul-
chral pillar, noticed by Gibson and Gough, standing up-
right by the road-side, with a defaced inscription, of which
only the word VICTORIN is legible.

Brecknock consists of three parishes, and contains 540
houses, and 2,576 inhabitants. It is 17½ miles west from
London, and has two weekly markets on Wednesdays and
Saturdays, and four fairs yearly. Evans's Cambrian Itin-
erary, 8vo. 1804. Malkin's Scenery, Antiquities and Bio-
graphy of South Wales, 4to. 1804. Gough's Edition of
Camden's Britannia, vol. ii.

BRECKNOCK Canal, in Inland Navigation, joins that from
Monmouthshire, eight miles and a half from Newport, and
about one from Pontypool. It crosses the river Avon, and
passes the high ground by means of a tunnel 220 yards long,
and, inclining towards the river Usk, passes Abergavenny.
It then runs parallel with the Usk to the town of Breck-
nock; making a course of nearly thirty-three miles, with
sixty-eight feet rise. A rail-road extends from Abergav-
enny to the canal, one mile in length; and from the canal
at Cwm Clydach to the coal and iron works at Wain Dew,
four miles and three quarters. Another rail-road, from the
canal to Llangroeny, crosses the river Usk, and is in length
one mile and a quarter. The rates of carriage for all kinds
of merchandise, materials, horfes, cattle, &c. are particu-
larly specified by the act of parliament. Philips's History of
Inland Navigation, 4to.

BRECKNOCKSHIRE, deriving its name from Brecon,
a distinguished character in legendary story, who succeeded
it about the year 400, one of the counties of South Wales,
is bounded on the north and east by Radnorshire, having the
river Wye for its natural division. A small part of He-
refordshire also attaches to its eastern limits; on the south-
caft and south the county of Monmouth forms its boundary;
and a small part of Glamorgan, with Caernarvonshire
and Cardiganshire, bound its western and south-western
extremities. The length of this area, north and south, is esti-
mated at twenty-nine miles, and its breadth at the southern
basins about thirty-four miles, making nearly 900 square
miles, and containing about 600,000 acres. This district
is divided into the four hundreds of Builth, Crickhowel,
Dyfnnoch, Merthyr, Penkelly, and Talgarth, and con-
tains 4 towns, and 67 parishes. These, with the hamlets,
are populated by 31,663 persons, and contain 6794 hou-
tes.

This county is described in the following terms by Gi-
raldus Cambrensis, who wrote at the latter end of the twelfth
century, and was archdeacon of St. David's, in which dio-
ce this county is included.

“Breschnianae (fares he, in his Itinerary of Wales) is a
county abounding with corn; and if ever any deficiency
happens, it is plentifully supplied from its neighbour, Eng-
land. It is rich in pastures and woods, deer and herds,
and abounds also with river-fish in the Usk on one hand,
and the Wye on the other; both yielding salmon and trout
plenty, but the Wye greater quantities of the excellent fish
called umbra. It is enclosed on every side, except the north,
by high mountains; having on the west the mountains of
Cant&oacute;bocan; on the south the southern hills, the chief
of which is Cader-Arthur, or Arthur's chair, from its two
summits (it being double-topped) resembling a chair;
and this chair, being on a high and steep place, is by the
vulgar ascribed to the greatest and most sovereign monarch
of Britain, Arthur. On the top of this hill rises a spring,
deep like a well, but square; and though no stream runs
out of it, they find trout in it. These mountains, forming a
barrier to the south, keep out the sun, while cool breezes,
and the native fulness of the air, render the country extremely
temperate. On the east stretch the Tolgar and Ewias hills.”
Previous to the reign of William Rufus, this county appears to have been veiled in its native princes; but in this reign Barnard de Newmarch, a Norman of great spirit, combined with prudence, assembled a considerable body of English and Normans, with whom he invaded this territory, and subdued the inhabitants. To secure his newly acquired posessions, he built castles, and affixed different parts of them to his principal associates. This policy further induced him to marry Nell, grand-daughter of Gruffyth ap Lluevelin, who, proving to be of a most revengeful and abandoned spirit, involved her lord in much trouble, and occasioned her loss to this dynasty. Disinherited, by falsely swearing to King Henry I. that he was a bastard. The lordship progressively passed to Mibi, earl of Hereford, and his sons, next to Humphry de Bohun, to Philip Brute, to Thomas Plantagenet, fifth son of Edw. III., and afterwards to the dukedom of Buckingham, till an attainder veiled it in the crown.

Brecknockshire was the seat of war in 1217, and afterwards in 1233, when Lluevelin came with an army, and destroyed nearly all the towns and castles in the county. At the restoration James Butler, afterwards duke of Ormond, was created earl of Brecknock.

The general aspect of the county is mountainous and grand, affording a sublimity of scenery, interpered with large plots of cultivation, that attaches to it a peculiar character among the strongly marked divisions of South Wales. It is distinguished from Glamorganshire by more level and extensive vales; its mountains are also more continuous, more lofty, and presenting an appearance of hill piled upon hill. Its woods are commonly in very large masses, and the banks of its rivers are luxuriously clothed.

The principal river of this county, next to the boundary one of the Wye, is the Usk, which, taking its rise in the Black mountain, on the border of Caermarthenshire, flows through a fine valley, in its progress to Brecknock.

Agriculture, in this county, is much improved within the last twenty years. Being contiguous to Herefordshire, the good husbandry of which is deservedly noted, many English farmers have purchased estates here, and introduced, with themselves, new and more approved principles of agriculture.

The principal remains of Roman antiquities are in and near the town of Brecknock. Among these there is a causeway running nearly at right angles with the river, and leading probably to the great Roman camp in the neighbourhood. Another Roman road has been discovered near the bridge of Capel Rhyd y Briw, and another on the top of the most frequented mountains. A Roman hypocaust has also been discovered in a field near the county town. Mainkin’s Inn in South Wales, 4to. 1864. Gough’s edition of Camden’s Britannia, vol. ii. Barber’s Tour in South Wales, 8vo. 1822.

Breda, Van, or Breda, Peter, in Biography, a painter of landscapes and cattle, was born at Antwerp in 1630; studied landscape after nature, and adorned his designs with figures, correctly drawn and judiciously grouped. His scenes are generally enriched with elegant Roman buildings, fountains, monuments, and ruins. His style, though inferior, resembled that of John Brueghel. He died in 1691. Pilkington.

Breda, Van, John, a painter of history, landscape, and conversations, was born at Antwerp in 1681, and instructed by his father Alexander Van Breda, who was much esteemed as an artist, with whom he continued, profiting by good example and advice, till he was 13 years of age. Among the capital paintings in the possession of John de Wit at Antwerp, Breda selected those of Velvet Brueghel, which he successfully copied; and he employed 9 years.
whole grand-daughter Joanna transferred it to her convent Engelsbrt of Naflin, whom she married in 1424. In consequence of this alliance it remained in the house of Naflin, till William III. of England, dying without issue, caused it to be left in abeyance. The old castle was begun by Henry of Naflin in 1520; but about the year 1586, William prince of Orange, afterwards king of England, erected the new one, which is a magnificent structure, surrounded by the waters of the Merke. Breda suffered exceedingly in the wars of the sixteenth century. In 1577 it was annexed to the domains of the king of Spain, by the duke of Alva, on account of the rebellion of William of Naflin, prince of Orange. In 1578, the city of Maximilian having offered his mediation for peace, a conference was held at Breda, but it terminated without an agreement between the Spaniards and the Confederates. In 1577 it was delivered up by the garrison to the States; but in 1581 it was retaken by Claude de Berlaimont, and fell into the hands of the Spaniards. In 1580 prince Maurice took it by a stratagem, having sent a party of select men concealed in a boat loaded with turf, by which means the prince was admitted, and the city surrendered. In 1665 it was invested by Spinola, who, well knowing the strength of the place, determined to reduce it by famine, and for this purpose drew trenches round it for the space of four miles, erecting forts and redoubts at certain intervals; the siege was prosecuted by Spinola with the utmost diligence and vigour; and the place was defended, amidst the calamities of famine and disease, with a firmness, resolution, and valour, which did honour to the talents of the governor, Julins de Naflin, the natural son of William prince of Orange. A negotiation at length took place between the besiegers and the garrison; and the result was, that two capitulations were drawn up, one for the garrison and the other for the city, both of which were the most honourable and advantageous that could be devised. These were accepted; and the garrison marched out, after having sustained a siege of 10 months, and having lost two-thirds of their number and an equal number of the inhabitants. Spinola drew up his army to salute them, and, surrounded by his field officers, paid particular compliments to the governor, and commanding officers. He also distributed money among the soldiers, ordered the sick and wounded to be tenderly treated and taken care of; and in the regard paid to the value and merit of his enemies he displayed all the sentiments of a hero. On the citizens also he poured out a profusion of civilities; manifesting his admiration of their constancy and fidelity to a degree, which even alarmed the States-General. In 1677 Henry, prince of Orange, determining to recover Breda, laid siege to it on the 23d of June, and obliged the governor, Omer de Fournin, a very distinguished officer, to surrender, the 20th of October following. The governor and field officers on this occasion were, by the prince’s generosity, allowed all the honours of war; and the officers of the city placed on the same footing as in the year 1625, before it was reduced by Spinola. Fournin paid his compliments, sealed a letter, to the prince; he was received graciously, loaded with praisos and honours, and dismissed with valuable presents, reflecting equal credit on the generosity of the prince and the valour of the governor. After this event the Dutch considerably augmented the fortifications; and yet, though they have been reckoned among the most complete in the Netherlands, Breda surrendered to the French, on the 24th of February 1793, after a short siege of 10 days. However, on the 20th of March following, it was again delivered up to the Dutch by capitulation, and the soldiers were permitted to return to France with safe conduct.

Breda was rendered famous in 1667 by the famous congress which was held there for a general peace: first, between Louis XIV. of France, and Charles II. of England, concluded the 21st of July, by the mediation of the king of Sweden; secondly, between the king of England, and the States-General on the 31st of July, one article of which peace was the cession of the province of New York to the English; and thirdly, on the same day a peace was ratified between the king of England and Frederick III. of Denmark. Breda lies 46 miles south of Amsterdam, and 22 S. S. E. of Rotterdam. N. lat. 51° 37'. E. log. 4° 45'.

BREDIE, La, a town of France, in the department of the Girond.

BREDEMAYERS, in Botany, Willden, 111. Clafs. 

[Text continues with various historical and geographical references, possibly involving maps or diagrams.]
BREED. See Breed.
Much of the success of the grazing farmer depends upon a correct knowledge and judgment in selecting and choosing the several breeds of different kinds of animals that are the most adapted to the nature, circumstances, and situation of his land. See Grazing and Stocking Pastures.

In the smaller kinds of domestic animals, there are likewise different breeds, which will be derived from considering their particular applications and uses in the practice of the farmer.

Bred's Hill, in Geography, an eminence, near Bolton in America, where the Americans withstood the attack of the British troops at the commencement of the American war, and where the former lost five pieces of cannon and 159 men, and the latter lost 1053 men, among whom were nineteen officers who were killed, and seven wounded. This battle is commonly called the battle of Dunker's Hill, from the name of another hill near Bred's Hill. It happened on the 17th of June, 1775.

BREEDING, in Natural History, one of the synonyms of Taurus saxatilis, which see.

BREEDING, in a general sense, is useful for the care of rearing or bringing up the young of divers animals.

BREEDING, in a moral sense, denotes a person's deportment or behaviour in the external offices and decorums of social life. In this sense, we say, well-bred, ill-bred, a man of breeding, &c.

Good breeding amounts to much the fame with what is otherwise called politeness, among the ancient Romans and moderns. Good breeding is nearly allied to virtue, and will, of itself, lead a man a great part of the way towards the same; it teaches him to rejoice in acts of civility, to seek out objects of complaisance, and to be pleased with every occasion of doing good offices. Lord Shaftesbury compares the well-bred man with the real philosopher; both characters aim at what is excellent, aspire to a just taste, and carry in view the model of what is beautiful and becoming. The conduct and manners of the one are formed according to the most perfect taste, and good entertainment of company; of the other, according to the highest interest of mankind; the one according to his rank and quality in his private station, the other according to his rank and dignity in society. Hence seems to have united both characters.


BREEDING, in Midwifery. Immediately after having conceived, a woman is said to be breeding, and this stage of pregnancy continues for the space of three or four months, or to the time of quickening, after which she is said to be young with child, and at seven or eight months, great or big with child. These stages, not of themselves of importance enough to be noticed, are here mentioned on account of some symptoms, peculiar to each of them. The most remarkable of these, and which frequently attacks women almost immediately after conception, is nausea and vomiting, particularly of a morning, and as soon as they rise from their beds; though in some cases, it continues through the whole of the day, feare suffering them to retain any part of their food. It usualy to attribute this symptom to nervous irritation, occasioned by the dilatation of the minute vesicles of the uterus, the stomach sympathizing with the part. As it is so general an attendant on breeding, perhaps, by the shock it gives to the frame, it may be intended to assist in unfolding those vesicles. Whatever may be the cause, vomiting in pregnancy is rather a troublesome than dangerous symptom, and the violence of it may usually be mitigated, though it cannot be entirely quelled, by a moderate and slender diet; and by taking small doses of rhubarb and magnesia, by loosing three or four ounces of blood from the arm, or by going for a short time into the country. It usually ceases soon after quickening, though in some women it continues through the whole time of gestation. Cardialgia or heart-burn, which is, another frequent attendant on this stage of pregnancy, is equally untractable and lasting, and only to be alleviated by remedies and management similar to those recommended for nausea and vomiting. Collivenda, to which women in this state are also subjected, is perhaps occasioned by the loss of the bile, which is thrown up by vomiting, instead of going down through the intestines, where, by its fluxus, it is supposed to keep up the peristaltic motion of the bowels, and thence to facilitate the deficient, and discharge of the feaces. Magnesia and rhubarb, lemons, manna, Epson, and glander's salts, in small doses, are the most convenient and efficacious remedies for obviating this complaint. When the abdomen is so weak as to reject these remedies, recourse may be had to aloes, of which four, five, or six grains, in the form of pills, may be given at night going to bed. The eulogium of giving women a larger portion of food, while breeding, which by the common people is thought to be necessary, as they have then two to support, if not the most frequent cause of the inconveniences here noticed, as attendant on pregnancy, certainly tends to increase and aggravate them, as the abdomen is at that time generally very weak and delicate, particularly in the last months, when the uterus has acquired such a bulk as to press on and irritate the bowels, and consequently to impede the passage of the food.

A moderate diet, air, and exercise, are necessary in every stage of pregnancy. Those women therefore err exceedingly who live at such times too sedentary a life, particularly those who spend much of their time in crowded rooms, at the card-table, &c., as besides the injury done by sitting too long in one posture, which they always keep troublesome to them, they breathe an impure and noxious air, whence proceed headaches, sickness, faintings, and a train of nervous symptoms, which not unfrequently lead on to abortion.

BREEDING, in Rural Economy, the art or science of rearing different sorts of live stock, in the belt and most perfect manner. This is a branch of the art of husbandry, on which great attention has lately been bestowed, but which probably depends on principles and circumstances that are not yet fully investigated or understood. Much improvement has, however, been effected in the raising of almost every kind of live stock, since the nature and means of its support have been better known and more abundantly provided. The greatly increased demand for the animals, either in consequence of their usefulness for the purposes of labour or those of supplying the food of mankind, has probably had much effect in promoting this sort of improvement; as rendering it more an object to the breeding as well as grazing farmers. It has been well remarked by the author of "Practical Agriculture," that notwithstanding much has been done in different districts, in bringing different breeds of different sorts of live stock to a greater state of perfection, much still remains to be effected; and that it is probably far from having reached that point to which it is capable of being carried, by the judicious combination of the best and most appropriate breeds of domestic animals, with the improvements in the cultivation of herbage, or other sorts of green food for their support. To fully explain the means of accomplishing such improvements in every sort of stock, many additional facts and experiments are, however, necessary. All that can be done at present is, perhaps, that of presenting the farmer with a few hints and directions, which may serve as guides in conducting the business.

In pursuing attempts of this nature to any extent, Mr. Middle-
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dleton has justly observed, great care should be previously taken, that there be a sufficient degree of shelter, shade, and warmth, and at the same time a high state of fertility in the land, with suitable drainage; as it is only by the richness and abundance of food that such changes or improvements can be made in the most advantageous manner, or the flock be carried to any high state of perfection.

Different modes of practice have been followed in the improving of live flock, but the principal are those of crossing the different breeds, so as to supply the imperfections and defects of the one by the merits and perfections of the other; and by uniting the valuable qualities or peculiarities of the same kinds by continuing to breed and selecting the most perfect animals in the same line or family. The former of these methods has been long known and employed; but the latter has, only within these few years, been fully introduced to the notice of the farmer, and is not, probably, yet so much attended to as it would seem to deserve.

It has been commonly supposed, that the practice of crossing the breeds of domestic animals possesses various other advantages, as well as those of preventing the decrease and degeneracy of the flock, on account of the animals being kept from becoming too nearly related to each other. There are many facts, however, which show that the supposition of the degeneracy of animals in consequence of the nearest of their relationship is not so well founded as has been commonly imagined. The complete success of the contrary practice in the management of Mr. Bakewell, who reared his belt flock by the nearest affinities, not only without degeneracy in any respect whatever, but with a continued improvement and amelioration, makes strongly against the opinion; as well as the circumstance of cattle in the wild state, in particular situations, remaining for centuries without the least alteration taking place in their form, or change in their colour or other properties. It has, notwithstanding, been asserted, that in this system of breeding, young flock decrease rapidly in size. If, however, such a circumstance was really apt to occur, it could hardly have been overlooked or disregarded by the very expert and intelligent breeder just mentioned, in his long and very extensive experience of rearing various kinds of live flock, by coupling the most perfect animals of the same line or family.

There cannot be any doubt, however, but that by the method of crossing the breeds of animals much advantage may be derived, especially in what relates to size, and some other properties noticed below; yet it is obvious, that it must require the nicest care, and the greatest circumspection, in order to suit the animals in the most exact manner to the nature of the improvement that is intended, otherwise injury, instead of advantage, may be the consequence. Indeed, from the injudicious and random method in which improvements of live flock, on this principle, have, in general, been undertaken, it does not seem improbable but that injury may often have been produced instead of benefit, by uniting such breeds, as, from the great dissimilarity of their forms, qualities, or other properties, could not have any chance of effecting the purpose with utility. Besides, in almost every district of the kingdom, where the breeding system is pursued to much extent, useful breeds of domestic animals are affected to have been injured by the practice of injudicious crossing, as may be seen in the various reports that have been published by the Board of Agriculture; and lord Somerville, in his excellent view of the system of the Board of Agriculture, has very pertinently remarked, "that to the mountebank doctrines of crossing dissimilar breeds, whom nature in its infinite wisdom had left sojurner, we are indebted for much confusion and mismanagement." It cannot, however, be disputed, but that by pursuing this method with judgment and proper attention, great advantages may often be obtained, especially in regard to bone or size, and the hide or coat, as well as in the improvement of particular parts or points, and probably in what relates to the movement or speed of the animals. The author of "Practical Agriculture," has observed, "as it is in some measure a principle founded in physiological science, and countenanced by the observation and experience of ages, that animals are formed what endowed with the faculty of not only preparing an offspring that has, in a considerable degree, the properties, disposition, and embellishments of themselves, but that in some measure, subject to a similarity of climate; it would appear, that although there may be occasional deviations, the most certain method, and that which has the best foundation in the nature and economy of the animal, in so far as the particular qualities and other properties, besides those that have been just mentioned, are concerned, is to breed in the same line, and, perhaps, in the same family; as by a careful procedure in this way, the expert breeder may not only have the greatest security for attaining that improvement which he is anxious to produce, but can the least risk of deterioration." The success of this practice, it is contended, "has merely been flown in the breeding of the farmer's flock, but also in that of the stocking, as it has been found that pointers and game cocks have been bred with the greatest perfection and superiority in this mode," and that "it is by the fame means that the valuable properties of the race-horse are perpetuated and preserved." "The same thing like-wise," it is added, "takes place in the vegetable economy, the fruit and most perfect productions of this fort being propagated by sowing seed selected from the best and most perfect plants of the same kind, and taking the buds or offsets from the best and most perfect trees of the same species." "There is also another circumstance," continues the same author, "that seems to throw the propriety and superior advantage of this method of proceeding in the breeding of domestic animals, which is that, however much the breeds of live flock may be altered by climate, pasture, and other causes, in what respects their colour and other trifling particulars, their specific characters remain invariably the same. No causes of these kinds have ever been capable of changing any one of the distinct breeds, whether of next cattle, sheep, horses, or hogs, in such a manner as to have the characteristic distinctions of those of any of the others." On these principles it is therefore concluded that "by having recourse to occasional crossing in the above intentions, and the careful selection of the most perfect animals of the same breed or kind, with due attention to confine good feeding, the improvement of live flock may be carried to the greatest perfection." "But as the principal object of the breeding farmer must constantly be that of obtaining such animals as will afford him the highest profit, it may be necessary to ascertain the nature and form of the animal that may be most advantageous in this view, or which pays the best for the food that is consumed, as by this means it will be seen what parts are the most definable or useful in a breed or variety, and what circumstances ought to be attended to, so as to justify its introduction in preference to any other." The properties which seem the most particularly to interest the breeder, in his attempts to improve the different sorts of live flock, are principally those of form or shape, size, disposition, hardiness, quick maturity, nature of flesh, fattening property, milk, hide, aptitude for labour, and the quality of the breed, or, in the language of the art, blood. With regard to form, the notions of breeders have been consider-
considerably at variance; but it would seem that there can only be one perfect form, which must be that which approaches the most to exactness in the shape and proportion of the different parts. This should, therefore, be the principal aim of the improver, whatever the nature or breed of the animal may be.

The writer, mentioned above, conceives, that "in this view a perfectly formed animal should have an exact proportion and conformity in all the different parts; the head neat and compactly formed, being neither too large nor of too great length; the eyes bright and prominent; the neck not of too great length, but somewhat thin, gradually narrowing from the breast towards the head, to which it should be neatly attached; the chest round, wide, full, and of deep girth; the length of the legs well proportioned to the size; the fore ones straight and clean, the hind ones forming an angle at the hock so as to stand well under the loins; the distance between the feet in the different extremities equal; the feet round and even; the hoofs straight; the back and loins straight and broad; the belly firm and capacious; the quarters deep, full, and well fleshed downwards." This would seem to constitute: that "utility of form," which is the chief aim of the most enlightened modern breeders: and it has been suggested as probable, that such a form may be the most adapted to the principal object of the grazier, that of taking on and fattening flocks in the process of fattening; as where animals greatly exceed or fall short of such just proportions of parts, there must be disadvantage either in their being weak and lags disposed to fatten, or of course requiring a larger proportion of food, and more time in finishing the bullocks; or in their being deficient in the general weight and value of the meat, from their not being sufficiently fattened on the belt parts. Mr. Young has indeed observed, in his Eastern Tour, that it has been the constant practice of Mr. Bakewell to procure such animals, whether of the cattle or sheep kind, as were capable of weighing the "most in the most valuable joints," as "there is a great difference between an ox of fifty stone carrying thirty in its flesh, and twenty in coarse boiling ones, and another carrying thirty in the latter, and twenty in the former." The utility of attending to this circumstance cannot be disputed; and it may likewise, in particular cases, be of much benefit to consider the nature of the consumption, in relation to the form of the animal, as where some parts are more in demand than others in the market, and of course fell at higher prices, that should be taken into the account of the breeder, and that shape which is most favourable in this view more particularly attended to.

It is supposed probable, that improvement in these as well as many other points of importance depends upon a just proportion and symmetry of parts in the animals made use of for the purpose. And it is conceived not improbable but that the "excellence of the most valuable parts in all the different sorts of live stock may, in some measure, bear a proportion to the goodness of the form in the animal."

The fine bullocks of shape usually distinguished by the breeder under the term "beauty of form," has been considered as very different from that of "utility of form," and to conduce in a greater roundness of the parts, with a less bony protuberant appearance.

Though it cannot but be a matter of much advantage to bring the shape of domestic animals to as high a state of perfection as possible, yet utility, or what may be termed profit, ought to be more particularly regarded as being the main object of the breeding farmer.

In regard to the second property, that of size, the question does not seem to be yet decided, whether large or small animals pay the hell for the food they consume, nor does it appear capable of being easily ascertained, as it must obviously be influenced by a variety of causes. It is a property that may, however, be definable where the chief object of the grazier is that of feeding to a great weight, especially where the supply of food is rich and abundant, but in other circumstances, it is perhaps not so necessary to be attended to. It is the difference in the quantity of meat afforded by large and small animals, in proportion to the extent and value of the food which they differently consume, that is to be considered. The experience of graziers would appear to rather favour smallness of size, from the animals fattening with more expedition, and paying them better. And the judgment of Bakewell is in support of the same conclusion, as he found that the "smaller the bone, the truer the make of the head, and the quicker in fattening." Mr. Young has also observed, in respect to the large sized breeds of cattle, as the Lincolnshires and Holderness, that, though large, their hides in their bones, they may be fattened with less, but can never pay so much for a given proportion of grists as the small-boned long-horned fowls.

Mr. Knight, an intelligent observer, however, contends that large animals are the most profitable, on the ground that they do not consume food in proportion to their weight, as on putting the question to different breeders, in different parts, he found they were uniformly of opinion, "that the same quantity of food was given to the smallest and the largest beasts of the same age; that the largest, even when not matter of the food, often kept itself in a better condition, and that every thing depended on the disposition to fatten, and very little on the size of the animal." His own experience is likewise in support of the same position. It is notwithstanding allowed that a limited number of large cattle will generally consume more than an equal number of small. This has been clearly shown by the practice of graziers in pole places, as they have found, that with small animals they can often flock nearly in the proportion of two to one. But in the consumption of food a great deal must also depend on the state of the stomach and digestive organs of the animals. There is another circumstance that is necessary to be regarded as being in some measure connected with size, which is that of the quality of the flesh. This, in general, allowed to be the finest and most delicate, in the smaller fowls; which would seem to be really the case from the grain or muscular fibre being smaller, and of course finer. The taste of the epicure also affords a further proof of the same thing, in constantly preferring the meat of small-sired animals of different kinds. On this account it has been commonly supposed that the meat of small-sired animals is worth more, for a given quantity, than that of large ones. Mr. Knight, however, contends, "that if the animal be taken as it stands in the pasture or stall, the contrary is the truth; but when the butcher merely buys what are termed the valuable parts, and receives the offal into the bargain, he will unquestionably, for obvious reasons, give more for two cows of twelve stone each a quarter, than for one of twenty-four. The offal is of much greater value, besides a considerable advantage in the hides. The difference between the weight of the animals, when living, and of the four quarters, when dead, is always in an inverse proportion to their sizes, when their forms and merits are equal; but the bones will then be in proportion to the living weight, and therefore, it is concluded, small animals must be, in this case, most disadvantageous to the con-sumer." However, as the flesh of large animals, from the greater size of their muscles, would appear to be more coarse in the grain; it is probable, that upon the whole, it must fall at a lower price in the market. It has likewise been supposed
It is probable that this property depends in a considerable degree on the nature of the breed, and the manner in which the animals have been reared. It has often been supposed to be denoted by a darknes of colour, and a roughness in the hair; but to these there are numerous exceptions.

It is likely that much importance to the public, as the abundance of supply must obviously be much connected with it. The length of time that different sorts of live stock may be kept with advantage, under different circumstances, has, however, not been yet fully ascertained, but meat cattle may generally, it is supposed, be kept longer with profit to the farmer than sheep. It is evident, however, that the method in which the animals are treated in respect to food must greatly influence the matter, as where they are abundantly supplied at all times, and of course constantly preferred in a thriving state, they will, without doubt, arrive much earlier at a state of maturity, than when the contrary is the case. In all sorts of stock this must invariably be the consequence. It has, indeed, been well observed, by Sir John Sinclair, that where the animals are constantly well fed, a greater progress will be made in three years, than in the common pitching mode can be made in five. The necessity and advantage of not suffering live stock of any kind to be restricted, especially in their more early growth, from the want of due care, food, and warmth, are therefore sufficiently clear, and should never be disregarded by the breeder in rearing of his stock.

In addition to the observations that have been already made on the nature of the flesh of animals, it may be remarked, that its goodness probably in a great measure depends on the breed being a quality inherent in the muscular habitus. Mr. Marshall has indeed observed, in the Rural Economy of the Midland Districts, that there "the grain is clearly understood to depend wholly on the breed, and not, as has been heretofore considered, on the size of the animal." Experiments are wanting to show how far the quality and colour of the flesh of different animals may depend on or be influenced by the nature and quality of the food on which they are fed, and on the breed. The common notion of its being in some degree connected with the size of the flesh of the animal, is most probably without any real foundation. The great deviations that have sometimes been observed in the flesh of animals from the natural appearance, can only be accounted for on the supposition of their being diseased. It is remarked in a late work on practical agriculture, that "in the living state the contents of good flesh are a mellow, elastic, rather firm feel, without any degree of hardness, and in the dead condition a similarity of feel, with a fine grain and fibrous appearance. There may likewise be some difference in the quality of the flesh of animals in proportion as they are more old or young, being in the former case more hard and less tender and juicy than in the latter. The fineness of the grain may also vary according as the animal is male or female, being in general coarser in the former than in the latter. The disposition to fatten readily while young is another property which has some relation to that just noticed; and which greatly interests the profits of the grazing farmer, as where it does not occur, a large proportion of food must often be consumed to little or no advantage. It is well known, that some animals of different kinds, and some particular breeds of different sorts of animals, become readily fit with but a trifling consumption of food, while others that consume in a vastly increased proportion have not the
leaf appearance of attaining such a state; but the principle on which this depends has not been yet fully ascertained. From the little knowledge that has been obtained on the subject, it would seem to be a quality some way or other connected with the smallness of bone. In the experience of Mr. Birkewell and some other intelligent breeders, it was found to depend much upon the goodness of form and the head. But whether it depends on these, or is the consequence of the particular state or structure of the digestive and respiratory organs, it is evidently of great importance to the farmer to have such animals as not only fatten readily, but in such a way as can be supported on the inferior fords of food. The opinion that has been made to the utility of the quality on the score of the overfattening of animals, and the supposition that such fat meat is less useful, as well as less economical in the consumption, is probably without any foundation in truth or just observation, as the grazer has no other means of increasing the quantity of lean meat in his feeding flock, but through the medium of the fattenning property. This quality should of course be constantly kept in view by the breeder in raising of his flock, whatever the kind may be.

The state of the hide or skin is likewise a circumstance that should be attended to in the breeding of animals, as showing, in some degree, their disposition to become fat. When it has a soft, flaky feel there is molly a disposition in the animal to fatten in an expeditious manner, and it is supposed to have an advantage in being more dainty, and of course more adapted to admit a larger increase of flesh. Thick hides may, however, have advantages in cold exposed situations, where warmth is more particularly necessary to the animals.

The quality of furnishing a large supply of milk, with the least possible expenditure of food, is another property in animals that ought not, by any means, to be overlooked by the breeding farmer. How far a separate and distinct breed should be provided for this purpose, or one partly adapted to this use, and partly to that of the butcher, is employed, is a point that has not yet been determined; but as it is well known, that such cows as have much tendency to fatten seldom or ever afford any large quantity of milk; there should probably be a breed exclusively for the purpose of the dairy. Sir John Sinclair has, however, foggested it as probable, "that, by great attention, a breed might be reared, the males of which might, in every respect, be well calculated for the hames; and the females, when young, produce abundant quantities of good milk, yet, when they reached eight or nine years of age, be easily fattened." It is supposed that this would be the most valuable breed that could be produced, and that some of the Scotch breeds have nearly attained such a state of perfection. The capability of performing labour in an easy and proper manner is another property, that, in many cases, demands the attention of the breeder, especially in neat cattle and horses; but, if in respect to the former for of flock, it has not yet been, by any means, decided, whether there be any advantage in the increase of meat by working the animals, or whether there may not be some disadvantage in their growth being retarded by the practice. It cannot, however, be disputed, but that where cattle are made to undergo much labour, they must be a greater length of time before they can be in a proper state to be brought to the market; and it would seem that the growth of the animals must also be lessened; however, as they are capable of being reared and kept at a much cheaper rate than horses, a breed well calculated for this use may, in many instances, be an object of great consequence to the farmer.

The inherent property of a breed, or what is usually termed blood, is likewise a quality that has engaged the attention of the breeder in the raising of live flock. This is most shown in the external appearance, and of course may serve to judge the judgment of the grazer in choosing such animals as may be the best suited to such improvements as he may have in contemplation.

Such are the principal points to which the attention of the breeder should be directed in its attempts at improvements of this nature, as well as the means by which they are chiefly to be accomplished. And it has been remarked by Dr. Dickson, in his System of Practical Agriculture, that "the success of his endeavours, to whatever species of excellence his attention may be directed, must obviously, in a great measure, depend upon the accuracy and correctness of his judgment in choosing those breeds, of whatever for of live flock they may be, that are most adapted to his circumstances; and in selecting such individuals, both male and female, of such breeds, as are the most perfect and exact in their different parts and properties; cautiously continuing to breed from them, without ever suffering the leal intermixture by the adition of thote of inferior qualities; advancing in this way, with the nicest attention to such faults or defects, however trifling, as may arise, to so as to alter and correct them by appropriate pairing in the succeeding generations. And as an indispensible article in this arduous undertaking he must constantly have recourse to the aid of good and abundant keep at all farms, with suitable degrees of shelter and warmth for both the old and young flock; so that they may never decline in flesh or be checked in their growth." This, continues he, "would seem to corroborate the great secret of the important art of breeding live flock, which the superior discernment and unwearied perseverance of a single individual raised to a degree of notice and perfection that has had the happiest effects in bringing the improvement of our domestic animals to a state of excellence perhaps unequalled in any other country." See CATTLE and Live Stock.

Breeding of fowl. See Fish-pond.

Breeding of horses, dogs, &c. See Horse, &c.

Breef-cards, denote a kind of false cards, either longer or broader than the reef, whereby they may be known and distinguished.

Brean, G. V. in Biography, an engraver of some merit, whose time is not ascertained, who worked entirely with the graver, and imitated the style of James de Gheyn, from whom he probably received his first instructions; though he never equalled his master, either in correctness of design, or mechanical execution. Strutt.

Breenberg, Bartholomew, called Bartolomeo, a painter and engraver, was born at Utrecht in 1620, and went, at an early period, for improvement to Rome; where the society of the Dutch painters, called "Batagogels," distinguished him by the appellation of Bartolomao. Among the superb ruins and beautiful objects, in and about this city, he acquired an elegant taste; and he peculiarly excelled in landscapes, which he enriched with historical subjects. The figures and animals, which he introduced, were elegantly disposed, and executed with spirit and freedom; especially when they were not larger than the small size, in which he usually painted them. His manner, particularly with respect to colouring, gradually improved; his touch is light and spirited, his tone of colouring very pleasing, his tints altogether of the Roman school, and his pictures are distinguished both by force and delicacy. The drapery of his figures, which are gracefully proportioned and disposed, are easy and ornamental, and in his smallest figures, the expression
preffion is lively, sensible, and natural. His pictures are exceedingly rare, and highly valued. We have of his etch- ing a few of 21 views, and landscapes, ornamented with ruins, &c. from his own designs. He died in 1660. Pilk- kington and Strutt.

BREESEBACH, in Geography, a river of Germany, which runs into the Ullrutt, 4 miles S. of Weifcnau, in the circle of Upper Saxy.

BREEZE, a shifting wind, blowing from the sea and land alternately, during certain hours of the day or night; only sensible near the coasts.

The sea-breeze, Damper observes, commonly rises in the morning about nine, proceeding slowly in a fine small black curl on the water towards the shore; it increases gradually till twelve, and dies about five. Upon its ceasing, the land-breeze commences, which increases till twelve, and is succeeded in the morning by the sea-breeze again. The sea-breezes rule by day, and the land-breezes by night; so that, dividing their empire, they remain as constant as the seasons of the year, or course of the sun, on which they seem alone to depend; but not that they appear sooner or later, stronger or weaker, in some places than others, and vary the alternative according to the several latitudes, situations, soils, mountains, valleys, woods, and other circum- stances of the countries where they are found.

In some countries, the sea-breezes appear only to be efforts of the general or trade-wind, as at Barbadoes, and in many places between the tropics, where the general wind, if not impeded by mountains or islands, blows fresh in the day time, but, after fun set, the terrestrial exhalations becoming precipitated, produce a new wind, which is not only able to make head against the trade-wind, but to repel it from the coasts.

The sea-breezes do not all come from the same point of the compass, but from different points as the land lies.

In Brazil, and many of the Caribbee islands, they have no land-breeze, especially if the shores lie low, as at Bar- badoes, where the general eastern wind blows from one end of the city to the other, and serves instead of the land- breeze. In other places they want the sea-breeze, especially between the tropics, in coasts which lie weefly, as in the western kingdoms of Africa.

If either the easterly or weefly winds blow fresh, they hinder both the land and sea-breezes in the Mediterranean; of which these are always found the weakest which rise later. In England, in very hot days, and when no other winds are stirring, the like alternation of land and sea- breezes may be observed on our coasts, though with little certitude, any where to the northward of Portugal.

Breezes are more constant in summer than in winter, and more between the tropics than in the temperate zone.

The general cause of those alternate breezes which set on and off the coasts in hot countries, is the greater rarefac- tion of the air by reflected heat, and by fermenting exhalations over the land than over the water: the denser air from the water becomes a sea-breeze in the day; but this air, con- dened again, by the cool of the night, may then occasion a land-breeze.

The caufe of this alternation of sea and land-breezes may be familiarly illustrated by placing a common pewter water- plate in the midst of a large vessel, and filling the former, first with hot water, and the latter with cold, and holding a taper just blown out at the edge of the plate; in which case, the smoke will be observed to gather over the plate which has heated, and of course rarified the superincumbent air; but if this experiment be inverted, and the plate filled with cold water, whilst the larger vessel is filled with hot water, the smoke of the taper, held near the plate, will be seen to move towards the rarified air that rolls over the hot water in the larger vessel.

Breezes differ from easterly, or trade-winds, as the former are diurnal, or have their periods each day; and, besides, they are only perceived near the shore or coast: whereas the latter are anniversary, and blow at a distance from land. Phil. Trans. No. 167. p. 143. See Wind.

BREB, in Brick making, are small ashes and cinders sometimes made of instead of coals, for the burning of bricks. But as this does not so well answer the end, the life of it was prohibited by 12. Geo. I. cap. 35. but allowed by 2 Geo. II. cap. 40; and Geo. III. cap. 49.

BRENNY, in Geography, the name of an ancient dis- trict of Ireland, which included the present counties of Cavan and Leitrim, with part of Longford. It was divided into seven and well, and is frequently mentioned in the history of Ireland, as it was not divided into counties until the reign of James the 1st.

BREGO, a small town of Switzerland, in the Valais, near the river Brone. N. lat. 45° 7'. E. long. 7° 16'.

BREGANCON, a fortnight of France, situated on a small island in the Mediterranean, near the coast between Toulon and St. Tropez.

BREGANZA, a small place of Italy, in the territory of Vicenza, famous for a delicious wine produced in its neighbourhood.

BREGA, a small river of Germany, in the circle of Swa- bia, which joins the Bribach, below the town of Done- chingon.

BREGENTZ, or BREGENTZ, in Latin, Comitatus Brigantii, a county of Germany, in the circle of Swabia, but annexed to the circle of Aulfland, bounded on the north by the territory of Wagen, on the east, by the hithopric of Augsburg, and the county of Tyrol, on the south, by the counties of Phalentz and Montfort, and on the west, by the Rhine and the land of Conflance. It anciently belonged to the counts of Montfort; but in 1451, part of it was sold to the archduke Sigismund for 35,552 Rhenish florins; and in 1523, the other part was sold for 50,000 Rhenish florins, to the archduke Ferdinand. The capital of the same name is situated at the east end of the lake of Conflance; it has several iron works in its vicinity, and an adjoining citadel seated on a mountain, and named Plenerg. To the south of the town is the "Bregenz-clans," which is a strong pass. This town was taken by the French on the 9th of August 1796. It lies 60 miles E. N. E. of Zurich. N. lat. 47° 31'. E. long. 9° 52'. The river Bregen rans into the lake of Conflance near the town.

BREGOLIO, in Geography, a small town of Padmont, in the county of Nice, feated on the river Rodia.

BREGOMA, or FONTANEL, in Anatomy, is a space left between the parietal or frontal bones in the fetus, in which the pulsation of the brain may be felt. There is frequently a similar vacancy between the parietal and occipital bones which is termed the posterior frontal. See Cranium.

BREGNANO, in Geography, a small town of Italy, in the duchy of Milan, seated on the river Svec.

BREGNO, Vald. See BRENA.

BREHAL, a town of France, in the department of the Channel, and chief place of a canton, in the district of Con- tances, 3 leagues S. S. W. of Contances. The town con- tains 1,377, and the canton 14,251 inhabitants: the territory comprehends 177 square kilometres, and 16 communites.

BREHAN LIEUDEAE, a town of France, in the de- partment of Morbihan, 6 miles N. of Josselin.

BREHAI, or BRIER, the name of one of the Scilly islands, lying about 30 miles directly west of the Land's End.
in Cornwall, N.W. of St. Mary, and W. of Trencaw, two other islands. It is mountainous and rocky, contains several barrows and monuments of the Druids, and is inhabited by 30 families. It abounds with sea and land fowls, excellent asparagus, and a variety of medical herbs. N. lat. 50° 12', W. long. 6° 47'.

BREHEMONT, a town of France, in the department of the Isère and Loire; 4 leagues of Tours.

BREHNA, a small town of Germany, in the circle and electorate of Upper Saxony, and in the preforest of Bitterfeld, having both seat and voice at the provincial diets; 12 miles N.E. of Halle.

BREHONS, in Antiquity, hereditary judges belonging to the inferior provincial kings, and also to the nobles or chiefs, among the ancient Irish, by whom justice was administered, and controversies decided.

These fages were a distinct tribe or family, to whom competent lands were allowed in inheritance. One of these seems to have belonged to each sept or tribe; and they had to try causes in the open air, either on the summit of a hill, or on its acclivity, as had been the custom of the Druids; and in such places the Irish continued also to hold their provincial assemblies, where all differences or complaints between district and district, and even private causes of extraordinary importance or difficulty, were heard and determined. To these meetings they came armed, some on horseback, and some on foot; as was usual among all the ancient colonies of the Celts in their public consultations. Brehons' chairs, or mounts, which are supposed to have been appropriated to this purpose, are found in many parts of Ireland. Dr. Ledwich has given a view of one of them, seated on the hill of Kyle, in the Queen's county. Campion speaks of such lawyers in 1,770, who, after the custom of the country, determined and judged causes; to which Stanhurt adds, that they were entirely unacquainted with the English, the canon, and civil law; that their determinations were founded on solid rules, but on precedents functioned by time and usage; and that these were kept profound secrets, by which they acquired admiration, and maintained their influence. An old man, the principal brehon in the part now called Monaghan, is mentioned by Sir John Davies, attorney-general of Ireland in the reign of James I. (see his Tracts), as being summoned before the lord chancellor, himself, and some others, when on a tour through the north, in 1600; and on a solemn promise of its being returned to him, he produced a roll out of his bosom, written on both sides in a fair Irish character, but worn and defaced with time and ill-keeping. Of the rules of the law by which the brehons determined causes, Sir John Davies delivers this opinion: "If we consider the nature of the Irish customs, we shall find that the people which doth use them must of necessity be rebels to all good government, destroy the commonwealth wherein they live, and bring barbarism and defolation upon the richest and most fruitful land of the world. For, whereas by the just and honourable law of England, and by the laws of all other well-governed kingdoms and commonwealths, murder, man-slaughter, rape, robbery, and theft, are punished with death; by the Irish custom, or brehon law, the highest of these offences was punished only by fine, which they called an "crick." He thus describes the mode of imposing it: "For offences and matters criminal, the same was of so heinous a nature, that it was capital; for treason against the chief lord, and murder, were finesable; the fine they called an "crick", which was affessed by the lord and his brehons. In case of treason, the lord had all the fine; in case of murder, the lord had one moiety, and the kindred of the party slain the other moiety; so as they never forfeited their possessions or their lands for any offence. Howbeit their lands were seized by the lords for their fines, until the same were levied thereupon, and then restored. Rape was finesable in like fort; but theft deferred praise and reward, if the sto the nght were brought into the country, because the lord had a share, and the country thereby became the richer. But the theft being committed in the country, and carried out, if the thief were apprehended before his friend made offer of his fine, he was commonly punished with death. But the lord, that his case, might take an "crick," if he would. The brehons, affiled by certain scholars, who had learned many rules of the civil and canon law, gave judgment in all causes, and had the eleventh part of the thing adjudged for their fee; and the chief's lord marshals did executions." Having described the Irish customs of tamility and gavel-kind, he thus concludes: "These are the principal rules and grounds of the brehon law, which the makers of the statutes of Kilkenny did not, without cause, call a "law-culture," for it was the cause of much law-suits and ill-suits. It gave countenance and encouragement to theft, rape, and murder; it made all pilferings uncertain; whereby it came to pass, that there was no building of houses and towns, nor education of children in learning or civility, no exercise of trade or handicrafts, no improvement or manuring of lands, no industry or virtue in life among them; but the people were bred in loquacity and idleness, which had been the true cause of all the mischiefs and miseries in that kingdom." Brehon-laws denote the general maxims, or rules of law, observed by the brehons, and having the force of law throughout all the provinces of Ireland, previously to the settlement of the English.

Several fragments of the leges brehonicse are still extant in public and private libraries. The most complete collection of them belonging to the duke of Chandos, containing twenty-two sheets and an half, close written, full of abbreviated words, and not very legible. This collection, falling into the hands of Sir J. Sebright, was given by him to the university of Dublin, and forms 28 volumes. These laws resemble those of other ancient people, in the order of succession called taurlhal, and in appointing fines for murder and other heinous crimes. From the resemblance of some of them to those of Asiatic countries, general Vannallis has endeavoured to strengthen his arguments in favour of the oriental origin of the Irish; while Dr. Ledwich urges the similarity of the same laws to the laws and customs of the ancient Germans and the northern tribes, in favour of the truth of Spathain's assertion, that the Irish are "Germanorum nepotes," or German origin. Dr. Ledwich asserts, that "the Irish erics are plain transcripts of the Salic and other wergilds in Linenbrog's German codes." The reader, who is dehous of further satisfaction in this inquiry, will find mol in that has been said respecting the origin of the brehons in Dr. Ledwich's "Antiquities of Ireland," and in the "Collectanea de diebus Hibernicis," and other works of general Vannallis. The latter gentleman has published a translation of some parts of the code, in the 11th number of the "Collectanea."

At the time of the conquest of Ireland by King Henry II. A.D. 1172. the Irish were governed by the brehon law; but the laws of England were then received and sworn to by the Irish nation, assembled at the council of Lismore. King John, in the 12th year of his reign, assembled with him into Ireland many able fages of the law; and there by his letters patent, in right of the dominion of conquest, it is laid to have ordained and established, that Ireland should be governed by the laws of England; which lettered patent Sir Edward Coke (1 Salk. 1615) apprehends to have been then confirmed in parliament. But to this ordinance many of the Irish were averse from conforming, and still adhered to
their breton law; so that both Henry III. (A. R. 30.) and Edward I. (A. R. 5.) were obliged to renew the injunction; and at length, in a parliament held at Kilkenny, 40 Edward III., under Lionel duke of Clarence, the then lieutenant of Ireland, the breton law was formally abolished; it being unanimously declared to be indeed no law, but a low custom crept in of later times; and it was enacted, that no English subject shall submit to a trial by this law, on the penalty of high treason. And yet, even in the reign of queen Elizabeth, the wild natives Hill preferred their breton law, which is described by Edm. Spencer (State of Ireland), to have been a rule of right unwritten, but delivered by tradition from one to another, in which oftentimes there appeared a great flaw of equity in determining the right between party and party, but many things repugnant quite both to God's laws and man's. As to the prevalence of this law among the Irish, this writer further observes, that "dwelling as they do, whole nations and septs of the Irish together, without any Englishman amongst them, they may do what they list, and compound, or altogether conceal, amongst themselves, their own crimes." Some writers have spoken of these laws, as if they were peculiar to the Irish, and an evidence of their barbarity; not duly considering, that when they were established, many other nations had similar laws; and that if the English had taken proper pains to introduce their improved institutions, and to settle the country under any kind of regular government, they would, in all probability, have been able, though not without difficulty, to effect it. The civilization and improvement of Ireland seem, however, to have engaged little attention till the reign of James I.; who "proceeded in this work," says Hume (Hill of Great Britain, vol. vi. p. 53.), "by a steady, regular, and well-concerted plan; and in the space of nine years, according to sir John Davies, he made greater advances towards the reformation of that kingdom, than had been made in the 440 years which had elapsed since the conquest was first attempted." The legislative union, referred for the reign of George III. affords a prospect, under regulations preferred by wise, moderate, and judicious counsellors, and enforced by suitable sanctions, of further improvements, conducive to the remedy of the peculiar disorders of Ireland, and to the promotion of the real interests of both countries.

See Union.

BREDDYN-HILL, in Geography, lies on the border of Shropshire, and occupies a large space between Montgomery and the vale of Severn. It consists principally of a coarse argillaceous schistus, blended in some places with small spherical crystals and a calcareous spar. The summit of this hill, near the pillar erected in honour of admiral Rodney, affords a very extensive and delightful prospect, extending over the vales of the Severn, Pernow, and Toned, as far as Plinlimmon, Cader-siрис, and Aran-ber-llyn, whose pointed tops agreeably diversify the line of the horizon. This was a favourite situation of Llewelyn the Great, about the year 1240.

BREIDEMBACH, a town of France, in the department of the Mofelle, 5 miles north of Ditsche.

BREICH, a town of Germany, in the circle of Upper Saxony, and duchy of Croffen; 5 miles S. of Croffen.

BREITENBACH, a town of Germany, in the circle of Upper Saxony, and county of Schweitzburg, seated on a small river of the same name, in the midst of woods, fields, hills, and valleys, with two churches and 400 houses; 14 miles S. of Erfurt. On the river, in its vicinity, is a mine yielding sulphur, alum, and vitriol.

BREITENBURG, a lordship and parochial village of Germany, in the duchy of Holstein, and circle of Itzehoe, seated on the river Stor, 2 miles S. of Itzehoe.

BREITENNECK, a town of Germany, in the circle of Bavaria, which gives name to a lordship, situate in the upper palatinate, and contributing to each Roman month 25 florins, and to each chamber term 35 six dollars. The bifurcation of this river belong to the elector of Bavaria, and the allodium to the counts of Montfort, in which is the town, which has a citadel, and is distant 3 miles N. E. from Dietfurt.

BREITHORN, and BREITLAUENER, praks of the Jungrfan, or Virgin, in the canton of Bern, in Switzer land.

BREITKOPF, John Gottlob Emanuel, in Biography, an ingenious printer, letter-founder, and bookseller of Leipzic, was born in that city, Nov. 23, 1719. In early life he manifested a strong attachment to the sciences, and acquired a considerable acquaintance with the languages, particularly the modern ones. When he joined his father in business, he commenced the study of mathematics, and after the perusal of a work of Albert Durer, in which the shape of the letters is deduced from mathematical principles, according to which the first printing types were formed, he made the improvement of the art of printing a principal object of his attention. Accordingly, he began with delineating the form of types mathematically; and he endeavoured to fashion them according to the most beautiful models, which he could procure by an extensive research among the English, French, Dutch, Flemish, and Italians. By his ingenuity and diligence, employed in this way, he obtained new and improved figures of characters, and had them cast in matrices cut for the purpose. Thus his printing-office and letter-founder acquired very high reputation, as being the most complete in the world, not excepting those of the society "de propaganda" at Rome, and containing punches for 400 alphabets, with an equal number of matrices, and a very copious assortment of ornaments. Whilst he was industrious in prosecuting every mode of improvement, he indulged no mean jealousy in contemplating the inventions of others in a similar way; but, on the contrary, he employed the types of Baskerville, and duly appreciated the value of those of Didot. Breitkopf found by his various and extensive researches, that engraving in wood had given birth to printing; and that the latter had contributed to the improvement of engraving. He was thus led to transfer some particulars, in the province of the engraver, to that of the printer; and with this view he made his first experiment in musical notes, and contrived to represent, by the typographic art, all the marks and lines which occur in the modern music, with no less accuracy than that with which they are represented by engraving. Recurring to mathematical principles, he succeeded, in 1757, in bringing this art to its present degree of perfection. He proceeded to print maps with moveable types, and, in 1776, accomplished, after encountering many difficulties, the object at which he aimed. This, however, he considered as a matter of more curiosity; and such was also another attempt, which was that of copying portraits by moveable types. In 1793, he directed his attention to another object of greater utility; which had long been considered as impracticable; and which large sums had been expended without avail. This was that of printing, with moveable types, the Chinese characters, which are, in general, cut in pieces of wood, so that a whole house is often necessary to contain the blocks employed for a single book. After some trials he at length succeeded; and having sent specimens to the pope, he returned him thanks in the politest manner by cardinal Borgia. His next attempt was that of printing mathematical figures in the same manner; but though he surmounted all obstacles by his persevering exertions, his numerous engagements prevented the completion of his design. Breitkopf directed his attention to the improvement of type-metal, particularly by giving it that degree of hardness, which has been a deafening in founder's art. His work was done by the R. C. press, and was published in 1791.
nes of this kind. He discovered likewise, a little before his death, which happened on the 20th of January, 1794, a new method of facilitating the process of melting and casting; but this he concealed for the benefit of his heirs. From his foundery, which employed 12 furnaces, and 39 workmen, types were sent to Kulla, Sweden, Poland, and even America. He introduced also several improvements in his process, which were freely presented to the inspection of those who visited his printing-house.

Besides his mechanical inventions, which occupied much of his time and attention, his researches into the origin and progress of the art of printing were very considerable, and furnished the materials of a history, which he left behind in manuscript. Of this larger work, he published, in 1774, an account, in a small tractate, containing, among other particulars a refutation of the opinion of those who pretend that printing was first employed at Florence, Wittenburg, or Antwerp. In 1781, he published the first part of a work, entitled "An Attempt to originate the art of playing-cards, the introduction of paper made from linen, and the invention of engraving on wood in Europe." The latter part of this work was finished, but not published, before his death. His last publication was a small "Treatise on Bibliography, &c." published in 1793, and containing extracts from his larger works, with his reasons for retaining the present German characters, and a refutation of some affections respecting typography. Breitkopf was distinguished by his fidelity and perseverance; and devoted his whole life to study and useful employment, with the interruption of only 5 or 6 hours in the 24, which he allowed for sleep. Schlichtegroll's Neurology. Gen. Biol.

BREITZENHEIM, in Geography, a lordship of Germany, in the circle of the Lower Rhine, on the Nahe, near the town of Creutzach, and derived its name from an old castle now in ruins. In the matricula of the empire it is attested at six florins, in that of the circle at 8, and pays to the chamber of Wetzlar 5 rix-dollars, 13½ kreuzers. Its inhabitants are partly Roman Catholics, and partly Lutherans.

BREDAE'S, Sr., a bay on the south coast of the island of Jersey, which takes its name from a village, 5 miles W. from St. Helier.

BRELANDS, a town of Norway, 7 miles W.N.W. of Christiania.

BRELLES, a town of France, in the department of Finisterre, and district of Brest; 3½ leagues N.W. of Brest.

BREM. See BREM.

BREM, a town of Italy, in the Milanese, near the confluence of the Sella and Po, on the frontiers of Montferrat; 28 miles W. of Pavia.

BREMBO, a river of Italy, which rises on the frontiers of the Valtelline, and discharges itself into the Adda, about 8 miles from Bergamo.

BREME, a cape which forms the south-eastern point of the island of Oroonoko, opposite to cape Araya, in South America.

BREMEN, a duchy of Germany, in the circle of Lower Saxony, bounded on the north by the German sea and the Elbe, on the east by Holstein, Luneburg, and Verden, on the south by Verden, Hoya, and Diepholz, and on the west by the Weser, Oldenburg, and the German ocean. Its greatest length is about 60 miles, and breadth about 40. The face of the country is level, and it is almost surrounded by the Elbe and the Weser. The air is cold; but the country is fertile and well-peopled. The Elbe, Orie, and Weser, are bordered with very rich marsh lands; those on the Elbe produce plenty of grain and fruit; those on the Orie are also very productive of grain, and yield a clay for vessels, and a kind of free stone; the flood on the borders of the Weser, besides being fertile in grain, supports likewise large breeds of cattle. Between Bremen and Stade, the country is either a barren sand, or a morass. In order to guard the lands against the inundations of the rivers, dykes and dams have been created, and are kept in repair at great expense; and yet in winter they are frequently so much overflowed, that the inhabitants are obliged to make use of long poles to leap over the ditches and other waters, in passing from one place to another; and the inundations of the Weser in particular are such, that cities and villages appear like so many islands in the midst of a sea. The champagne country has, in some parts, good corn land; the heaths are covered with sheep; and the culture of bees is an object of particular attention. On the moors are dug great quantities of turf, which is exported to Bremen and Hamburg, and used in brick kilns, the glaze-houses, and as fuel in private houses. This country yields likewise much flax. The inhabitants likewise, by their situation between navigable rivers, have been induced to turn their thoughts to trade. They have the reputation of being good folderis; but on account of the marshes and inundations of the country, they are subject to agues and fevers, and are hence led to indulge the habit of drinking much brandy. Reitbeech describes them as yellow-skinned, soft-fleshed, and full of wrinkles; and their small round figures form a striking contrast with the tall Germans of the southern parts. Few rosy cheeks are observed either among men or women.

The duchy of Bremen was formed out of an archbishopric, which was originally a bishopric, founded by the emperor Charles the Great in 787 or 788, of which Willenhad, an Englishman, was the first bishop. In 858, the see was incorporated with Hamburg, as the archbishopric of the northern nations; and the archbishops gradually got into the hands the counties within the diocese of Bremen, and acquired the sovereignty over it. But after the death of the archbishop Roden in 1511, the chapter elected archbishops out of princely families; in 1514, the Swedes made themselves masters of Bremen; and, in 1648, at the peace of Weilphalia, it became a duchy and fief of the empire. In 1675, the duke of Brunswick and Luneburg, in conjunction with the bishop of Munster and some Danish forces, overran this duchy as far as Stade, which place was taken in the following year by the Luneburg troops. The conquerors first thought of sharing the duchies of Bremen and Verden between them; but Sweden kept the whole to herself, except some small part of it, which was restored to the dukes of Brunswick and Luneburg, at the peace of Nimeguen in 1679. During the northern war, the Danes, in 1712, reduced the duchies of Bremen and Verden; and in 1715, Frederick IV. transferred them to the elector of Brunswick, in lieu of the sum of 700,000 rix-dollars. In 1719, by the peace of Stockholm, they were ceded by the crown of Sweden for ever to the elector of Brunswick, together with all their rights and appurtenances, in the same manner as they had been granted to Sweden by the treaty of Olmbruck; for which renunciation the elector paid Sweden a million of rix-dollars. In 1732 the elector obtained the emperor's investiture for Bremen and Verden. The elector of Brunswick, as duke of Bremen, possessiles in the college of princes, the sixth seat on the bench of temporal princes, and in the diet of Lower Saxony, exclusively of a vote, is alternately director with Magdeburg. The affilment of the duchy to a Roman mouth, is 24 hours and 100 foot, or 688 florins, which is also its contingent to the matriona of
of the circle; and to the imperial chamber at Wetzlar, it pays 108 rix-dollars, 22,4 krentzern. The duchies of Bremen and Verden are jointly under the following colleges; viz., the regency, consisting of three counsellors, and subordinate to the privy-council at Hanover; and the chancery, composed of the three counsellors of regency, a director, and certain judiciary counsellors, and taking cognizance of criminal and executive causes. In the high court of justice sit all the members of the chancery, with seven assessors, nominated by the flies of each diocese; viz., three by the Bremen nobility, two by Stade and Buxtehude, one by the nobility of Verden, and one by the town. The chief branches of the sovereign's revenue are those of the demesne bailiwicks, districts, and jurisdictions, with the regalia; certain payments arising from the subjects, as excise, and the monies for the maintenance of the high court of appeal at Zell, for furnishing forage, &c.

In the whole diocese there are but two cities, viz., Bremen and Stade, and 12 market towns. The flies of Bremen confit of the nobility, and the deputies of the towns of Stade and Buxtehude, whose privileges are the same with those of Verden. An assembly of all the flies, or a diet, cannot be held without the knowledge and consent of the regency; but the nobility may assemble twice a-year at Balfal, without giving any previous notice to the regency. All the inhabitants, except those who belong to the free flies, and who have a right to sit and vote in the diets, are taxable; and the number of taxable hearths is 22,756. The established religion is Lutheranism; the number of Lutheran churches is 118, under the superintendency of more than this number of pastors; and the supreme inspection of the churches of this diocese and of the principality of Verden is vested in a general superintendent. The Calvinists form seven congregations, with a like number of pastors. The doctrine and institutions of the reformed church were introduced into the republic of Bremen in the 16th century. An attempt for this purpose was made fo early as the year 1556, by Albert Hardenberg, the intimate friend of Melanchthon; but it did not succeed till towards the close of this century, when no measures, either of prudence or force, were sufficient to prevent the church of Bremen from modelling its faith, worship, and government, after that of Geneva. The manufactures of this country, exclusively of cordage and linen, are those of cloth, flannel, kerseys, and other woollen stuffs, at Scharnbeck. Ammound, in the district of Leffum, has a sugar refinery, and a porcelain manufacture. The principal rivers of the diocese, besides the Elbe and the Weser, are the Otte, the Schwinge, the Lueke or Aua, the Geete, and the Lefum.

Bremen, an imperial city of Germany, and capital of the diocese of the same name. This city lies on the banks of the Weser, which divides it into the Old and New town; joined by a large bridge, and another smaller one over a little branch of the same river. The streets of the Old town are very narrow; the houses, which are rarely more than two stories high, are, in general, old-fashioned and inconvenient, nor are the more modern built with great taste. The exchange, however, the Lutheran orphan-house, and a few other edifices, are in a much better style. The houses, both of the Old and New town, which are numbered, inclusive of the suburbs, are 5105; and Hoesck enumerates the number of inhabitants at 49,000. The Old town is the largest and most populous, and is divided into four parishes. Most of the magistrates and principal merchants have their winter habitations in this town; but their gardens and summer residences are in the Old town. In the Old town stands the cathedral, which is an ancient Gothic structure, and which belongs to the Lutherans. Under its cloister is the "Berecker," or lead-cellar, so called because the lead, with which this building is covered, was cast there. It has the singular property of preserving from putrefaction the dead bodies which are put in it, and which resembles the vaults of the Cordeliers and Jacobins in Toulouse. This city is governed by a council, that consists of four burgomasters, who preside by turns, each for six months, two syndics, and twenty-four senators, some of whom are jurists, and the rest merchants. The whole body is distributed into four courts, each consisting of a burgomaster and six senators. These magistrates elect their new colleagues, without consulting the citizens; but none can be chosen who are not nearly related to any already in office. They may make any arrangement they think fit, with respect to the police; but they cannot enact any new law, nor alter any part of the constitution, nor impose any tax, without assembling the citizens; nevertheless, no resolutions of these latter are of any effect, unless approved by the council. The management of all public money is committed to deputies, appointed by the citizens, who act under the orders of the council, and must lay their accounts before their constituents. Their taxes are moderate: they who pollute property exceeding 3000 dollars, pay a foot or tax on what they are worth, in which each is left to estimate his own pollutions and to ascertain the sum which he thinks he ought to pay. In doing this, the citizens are, in general, so conscientious and public-spirited, that most of them really contribute more than could strictly be demanded from them; but they are well satisfied that the revenues of their little state are wisely and frugally administered; and not wasted in supplying the extravagances of princes, nor in diffusing corruption among the people and their representatives. The police of this city, it is said, is excellent; and not a beggar is to be seen in or near it; the magistrates taking care to furnish the poor with an opportunity of gaining a subsistence by industry. To the Jews, however, they are less tolerant and equitable; for they will not permit any of them to reside in the city, nor even to enter it, except during the fair. The predominant church at Bremen is the reformed, or Calvinist. Of this persuasion are the magistrates; though the Lutherans are not, by any law, excluded from the regency. Formerly they were sometimes chosen into these offices; but since the Calvinists have had undiluted possession of the government, they have taken care to keep out all that are not of their own sect. This city was formerly an arch-bishopric; but fo early as the 13th century, frequent disputes occurred between it and the bishops and chapter. Frederic, the last archbishop of Bremen, was frequently at variance with the city, opposing its appearance at the diet, though formally summoned to it; and in 1639 he conferred the cathedral on the Lutherans, which had been flung up ever since the year 1568. But in 1640, Bremen was summoned to the diet, and allowed a seat and vote on the Rhenish bench in the college of Imperial cities. In 1648, at the peace of Weilphalia, both the city, its dependencies, and vassals were confirmed in their state-freedom, rights, and privileges, ecclesiastical as well as civil; and though disputes afterwards arose, the house of Brunswick and Luneburg, in 1734, voluntarily granted the city that freedom which had been contested, and all disputes were brought to an amicable termination. In 1757, the French got possession of this city; but in the following year hastily abandoned it and were succeeded by a body of Hanoverians. In the diet of the empire it possessed the eighth seat on the Rhenish bench in the college of Imperial cities. Its municipal allotment is 3,105 florins, and its contingent to the chamber at Wetzlar 148 rix-dollars, 674 krentzern. The king of Great Britain, as elector of Brunswick,
wicke, now claims all the authority which the prelate and chapter formerly enjoyed. He appoints the pastor of the cathedral, which belongs to the Lutherans; who, as such, are immediately dependent on the electoral government.

Bremen is supplied with water from the Weser by means of a wheel turned by the stream, which raises it into a reservoir, whence it is conveyed to the several houses by subterranean conduits, at a very small expense. On the building which contains this machine is the following inscription:

"Volve Pater, Civis tradam tua dona, Visurgis!"

Provisions of all kinds are much cheaper at Bremen than at Hamburg, or even in Hanover; and yet neither the commerce nor the wealth of Bremen is inferior, in proportion to its size, to those of the other Hanse towns; but the expensive luxury, which prevails in many trading places is unknown here, and the manners of the inhabitants are plain and frugal; of which one great cause is, that the town is very little visited by strangers. In this city there are many manufactures, exclusive of a very considerable trade. This trade consists in iron, brass, hemp, and linen, exported to England, France, Spain, and Portugal, and in returns of various other articles with which it supplies Welfphala, and the countries about Hanover. It is also a considerable gather by its fisheries, and particularly the trade of blubber with the south of Germany. Bremen is famous for Rheinh wine; the sale of which is monopolized by the city, and it can be bought only at the public vaults. In one of these, as we are informed by baron Knigge in his "Letters written on a Journey from Lorraine to Lower Saxony," published in 1793, that wine is kept so very old, that it, to the prime colt, the accumulating interest of the money, the filling up, and other expenses, were added, a bottle of which would amount to above a thousand dollars; but the banor does not vouch for the truth of this report. This precious liquor is only used by the magistrates on rare and grand occasions, and it is sometimes administered, by order of the president, to the sick.

The character of the inhabitants of Bremen, says this author, has been unjustly treated with contempt by travellers; and they have been represented as a plodding, stupid people, without genius or taste. He observes, on the contrary, that though the citizens of Bremen have not that exquisite taste for the comparatively trifling arts of luxury and amusements, nor that studied polish of manners which results from an habitual want of more serious employment, and from frequent intercourse with foreigners, whole male object is pleasure; they have in general good natural abilities, improved by a judicious education; and with respect to useful knowledge, whether literary or scientific, more information may be obtained by conversation in Bremen, than in many places in which more pompous pretensions are set forth. They are obliging, frank, and hospitable; and their numerous and excellent institutions for the education of orphans, and for other charitable purposes, which are supported by voluntary contributions, reflect honour on their generosity and public spirit. This city has lately afforded M. Oberson an opportunity of forming an association of opulent merchants, who have established a museum, a physical cabinet, and an observatory, with professors, among whom M. Oberson, the discoverer of the new planet called Pallasis, is the professor of astronomy. Bremen is situated 52 miles S.W. of Hamburg. N. lat. 53° 20'. E. long. 9°.

BREMENIUM, in Ancient Geography, a town from which Antoninus begins his first journey in Britain. It was one of the towns belonging to the Otadeni. Dr. Gale places it at Brampton, on the river Bremish in Northumberland; others place it at Brampton in Cumberland; but the altar that has been found at Richelpher, or Richelher, near the head of the river Read in Northumberland, with the name Breminum upon it, demonstrates that this was its real situation. Baxter (Glos. p. 467) derives its name from the British words Bre man it, which signify a town upon a hill near a river, which is agreeable both to its situation and present appellation. Horold, Brit. Rom. p. 243.

BREMESCHLÖSELE, in Geography, a large village and bailiwick of Germany, in the duchy of Bremen, which was formerly the palace of the archbishop. It has municipal privileges and two burgomasters; 30 miles N. of Bremen, and 10 S.W. of Stade. N. lat. 53° 58'. E. long. 8° 35'.

BREMETONACIS, in Ancient Geography, a place of Britain, in Antonine's tenth rout, from Glannoventa to Mediolanum, between Galacum and Coccium, or Appleby and Richelher; supposed to be Overborough.

BREMGARTEN, in Geography, a town of Swiflerland, and one of the free bailiffages, formerly subject to the cantons of Zuric, Bern, and Glarus, from the year 1712, and united by the French division of 798, to Baden, which forms a part of the department of Argovie or Argow, according to the French constitution of 1801. The inhabitants of this bailiffage are Roman catholics. Its regency, previous to the French conquest, consisted of the little and great council; the former being composed of 12 members, and the latter of 40. The town is seated on the Reifs, about 8 miles S. of Baden; and has a wooden bridge over the river, forming a communication between the cantons of Zuric and Bern. It is divided into the Upper and the Lower town; the former situated on an eminence, and the latter on the bank of the river. N. lat. 47° 4'. E. long. 8° 12'.

BREMIS, a town of Swiflerland, in the Valais, situated south of the Rhine and near it; 4 miles E.S.E. of Sion. N. lat. 45° 16'. E. long. 7° 16'.

BREMONT LA MOTTE, a town of France, in the department of Pay-d-Dôme, 10 miles from Clermont.

BREMPT, a small town of Germany, in the electorate of Treves, seated on the Mofelle.

BRENES, a range of mountains in the southern part of Africa, towards the Cape of Good Hope, which, according to Barrow, in his "Travels," 1701, p. 308, falls N. W. and S. E. about lat. 33° or 34°. This great range, says Pateron, p. 125, runs E. and W. at the distance of about 4 days' journey from the mouth of the Orange river; probably the immol terrace of the Table land of southern Africa, which seems to be pervaded by the Jagas, a wandering nation like the Tartars.

BRENSCHHUSEN, a town of Germany, in the circle of Welfphala, belonging to the abbey of Corvey, 4 miles N. W. of Corvey.

BRENDOLO, a small sea-port town in the canals of Venice, between Venice and the mouth of the Po.

BRENNET, a picturesque lake of Swiflerland, in the valley of the lake of Joux, upon that part of the Jura chain of mountains called Mont Joux, in the bailiffage of Roman Motier. From this small lake defends a stream, which is led in a hollow gulph called "L'Entonnoir," or the funnel, in which several mills are turned by the force of the current. About 2 miles further, on the other side of the mountain, the river Orbe bursts forth, and is probably produced by the streams of ingulphed.

BRENETS, I.e., a village and mayorality of Swiflerland, in the Valais, containing about 1000 inhabitants; 10 miles N.W. of Neuchatel. It is seated near the river Don. N. lat. 47° 5'. E. long. 6° 27'.

BRENN,
BRENNAGA, Brennagia, in Middle Age Writers, a kind of tribute paid, in lieu of bran, or bran itself, which the tenants were obliged to furnish for support of the lord’s bounds. The word is also written Brenage, brengium, and brengus, breningium, brennaticum. Du. -Cange. Lat. Coiff.

BRENNAU, in Geography, a town of Lower Bavaria, situated on the river Illm, nearly built and sinking into decay; 32 miles from Munich, and 23 miles from Passau.

BREN, the name, before the revolution, of a small district of France, that lies between Berri,Touraine, and Poitou, and of which the chief town was Messieres; forming now a part of the department of the Indre.

Brenne, a town of France. See Braine.

BRENNER, Henry, in Biography, a learned Swede, born in 1665, in the parish of Kronoby in West Bothnia.

Having finished his education at Upsal, he accompanied, in 1697, Lewis Fabricius, his Swedish majesty’s ambassador, to Peria; and as he had acquired, in this journey, an extensive knowledge of the eastern languages, he remained in that country for the purpose of allaying the Perians envy, Sans Chan Beg, in his mission to Sweden. On their way through Russia in 1700, a war having taken place between Charles XII. and Peter I. Brenner was arrested at Mofcow, under a suspicion of some political intrigue, and confined in prison till the peace of Nyild. This journey, however, produced a learned epistolary correspondence with Elias Brenner, Griphenhelm, Gavelus, Benzhezer, and Liliendelk, part of which has been published; and the history of Moses Armas Arsmn Choronensis, under the title of “Epitome Commentationum Mofys Armeni de origine et regibus Armemorum et Parthorum, cum notis et observationibus.” Stockholm, 1723. The Armenian original of this work, written about the middle of the 17th century, in the Armenian language, was printed at Amsterdam in 1693; and another translation of it was printed at London in 1736 by the sons of the celebrated Whilton. In 1722 Brenner communicated to the royal college of the chancellors his observations on the cause of the expedition undertaken by Peter I. against the Persians; of which Julius Rabner has availed himself in his history of that prince. In the course of these observations, he announced his intention of giving an accurate description of the Caspian sea, and of the river Daxia in the country of the Nezette Tartars, which he supposed to be the ancient Jaxartes; but a copy of it was interdicted, without acknowledgment, in the “Mcmorabilia Orientalis partis Asiæ.” Whilf Brenner occupied the office of librarian to the royal library at Stockholm, to which he was appointed in 1722, he enriched it with more than 30 volumes of MSS. which treat of the ecclesiastical history of Sweden. But his health having been impaired by his long confinement in Russia, he died in 1732. Gen. Biog.

Brenner, in Geography, the modern denomination of the Rhetian Alps, which pass through the Tyrol, between Innsbruck and Storzings, over which the high road is extended through an interval of 4 leagues. These mountains rival the grand Alps of Switzerland in numerous glaciers, and, like other grand chains, present exterior barriers; that on the north being distinguished by the name of Spitz, and that on the south by the appellation of Vedretta. The primitive or greatest elevations are on the north of Storzings, whence a river proceeds towards the river Inn on the north, and to the Adige on the south; and the Eifac descends, as a precipitous torrent, amidst masses of granite, porphyry, and marble, while the avalanches become dangerous to travellers. The naked and rugged peaks of the mountains Lorenzen, Turteln, and Tschatafisch, raise their towering heads towards the N. and on the N. are those of Glandier, Schlaff, Pragels, and Pullfjuran. Their summits are entirely bare, and seem to be composed of granite. The glacier most easly of access is that of Stuben, the centre of which presents many Alpine plants; and the granite and porphyry are frequently covered with calcareous floes. The glacier of Stuben is 46 feet above the level of the sea, and exhibits the usual phenomena of such scenes, with beautiful pyramids of azure, which in sunshine reflect a blaze of light. The mountain, particularly called Brenner, is, according to Beaumont (ubi infra) only 5120 feet above the level of the sea. The town of Steinach is placed nearly in the centre of the Tyrolean chain; towards the east, from the midst of a long course of glaciers running N. and S. of the mountain Gfornson, a mass of granite covered with snow, and one of the highest peaks of the Rhetic Alps; on the west is Habichpitz, of smaller height; but to the S. W. is Tribaten, another stupendous peak of the great Brenner chain. Beck-kogo (which see) is another. The Brenner, or burning hill, says Beaumont, is so called on account of the frequent thunder-flames. Beaumont’s Rhetic Alps, Lond. 1792. Pinkerton’s Geog. vol. i. p. 362. See Alps, and Tyrol.

BRENNING. See Burning.

BRENNIKIRCHEN, in Geography, a small town of Lower Austria, on the frontiers of Hungary, not far from the Danube.

BRENO, a town of Italy, in the Brescian, seated near the Oglio, between Bormio and Brescia; 32 miles N. of Brescia.

BRENOD, a town of France, in the department of the Ain, and chief place of a canton, in the district of Nantus; 5 miles S. of Nantus. The town contains 879, and the canton 6959 inhabitants; the territory includes 215 kilomètres and 11 communes.

BRENSCHEN, or Breunschen, a town of Germany, in the circle of the Lower Rhine, and electorate of Mentz; 7 miles S. of Mühlberg.

BRENT, Miss, in Biography, afterwards Mrs. Pinto, the first finger who performed the part of Mandane in Dr. Arne’s Artaxerxes. In her bravura singing she had considerable merit: her execution was neat, distinct, rapid, and univalved at the time (1763); but has been greatly surpassed by subsequent female singers. This performer died in 1802, oppressed by age and indigence. Her history, if detailed, might furnish a useful lesson to female favourites of the public, poetified of greater vocal powers than human prudence.

Brent, in Geography, a river of England, which runs into the Thames at Brentford in Middlesex.

BRENTA, a river which has its source in the Tyrol, about 7 miles E. from Trent, passes by Padua, and runs into the Adriatic, a little to the south of Venice.

BRENTA, in Ornithology. See Branta.

BRENTFORD, in Geography, a market-town of Middlesex, England, stands on the northern banks of the river Thames, at the distance of seven miles W. from London. This place is particularly distinguished in the page of history as the scene of warm contention, in the strongly contested elec-
the death of Luther, he assumed a considerable lead in his party. He was twice married; and in 1550 died at Tubingen, where he was theological professor, leaving behind him a numerous progeny. His works have been published in 8 volumes, fol. Moreri.

BRENTOLA, or BRENDOLIA, in Geography, a small town and district of Italy, in the Vicentia, at a small distance from Vicenza.

BRENTON's ref', the southernmost point of Rhode island, in America, about three miles from Newport, lies 2 miles E. of Beaver-tail; forming with it the mouth of Newport harbour.

BRENTONEGO, a town of Germany, in the Tyrol; 12 miles S.S.W. of Trent.

BRENTUS, in Entomology, a genus of Coleopterous insects, having the head projecting into a very long, straight, cylindrical snout, beyond the middle of which the antennæ, which are moniliform, are inserted. Fabr. &c. The species of this genus are anchorage, affinis, bartoria, litorum, cylindrinotus, dispara, dunyanus, hydile, monilis, nanae, and semipunctatus, which see.

BRENTWOOD, in Geography, is a large chapelry in the parish of South-Weld, in the county of Essex, England, situated 18 miles E. from London, on a commanding eminence. It is a considerable thoroughfare, and contains many inns and public-houses. The Crown Inn is of very ancient foundation; and even in Salmon's time was reputed to have had that sign for 300 years. The county affords were once held here; and in the High-street are the remains of a town-hall and prison, inhabited by a factor and other persons, who are bound to put them in repair when the affixes shall be again removed thither. Here is a good grammar-school, endowed by Sir Anthony Brown in 1537. The chapel of the small ancient structure, was founded about the year 1221, at the intercession of David, prior of St. Osyth, for the use of the tenants of a manor belonging to that monastery. This township contains 182 houses, and 1007 inhabitants. Camden supposed the Castaromagus of the Itinerary to have been in the neighbourhood of Brentwood. At South-Weld is a circular camp, single-ditched, including about seven acres, supposed to have been a cætra exploratory near which the Roman way, called Watling-street, passes. Morant's History of Essex, 2 vols. fol.

BRENTWOOD, a township of America, in Rockingham county and state of New Hampshire, containing 971 inhabitants, distant 7 miles from Exeter, and 19 from Portsmouth. In its vicinity is found a stone in which vitriol and sulphur are combined.

BRENTZ, a river of Germany, which rises in Wirttenberg, and discharges itself into the Danube, near Lauingen.

BREPHOTROPHIUM, from φωτοσ, infant, and τρόπος, I nourish, an hospital for foundlings, or a place wherein children, exposed by their parents, are brought up at the public charge.

BREWERWOOD, Edward, in Biography, first professor of altronomy at Gresham college in London, to which office he was chosen in 1596, was born in the city of Chester in 1565; and having completed his course of grammar learning in his native place, was admitted, in 1581, of Bravenose college, in the university of Oxford. Here he acquired the character of an affluence student, and took his degree of master of arts in 1590. Failing in his attempt to obtain a fellowship, for which he was a candidate, he removed to St. Mary's hall. After his election to the professorship of Gresham college, he seems to have had no wishes of further preferment; but devoted himself to the pursuit...
pursuit of knowledge, and passed the remainder of his life in retirement. He died of a fever, Nov. 4th 1613; and was buried in the chancel of St. Helen's church, without any monument or other memorial. From his works on a variety of subjects, which were printed after his death, we may conclude that he was a very general scholar. Thence are as follows: 1. "De ponderibus et pretiosis veterum numorum, erorumque curn recentioribus eoodum," lib. i. Lond. 1614, 4to. printed also in the "Critici Sacri," vol. viii. and in the Apparatus of the "Biblia Polyglotta." 2. "Enquiries touching the diversity of Languages and Religions through the chief parts of the World," Lond. 1614, 2, 3, 25, 40.; 1647, &c. 8vo. To this was prefixed a learned preface by his nephew and heir, Robert Brewood. 3. "Elementa logicae, in gratiam studentum juvatissimam in academia Ooniienii," Lond. 1614, 1615, &c. 8vo. 4. "Tractatus quidam logici de predicabilibus, et predicamentis," Oxon. 1640. 4to. 1628; and 1637, &c. 8vo. 5. "Tractatus duo; quorum primus est de meteoris, fecundus de occultis," Oxon. 1631, 1638, 8vo. 6. "A Treatise of the Sabbath," 1611; Oxon. 1631, 4to. 7. "Mr. Byfield's Answer, with Mr. Brewood's Reply," Oxon. 1631, 4to. 8. "A second Treatise of the Sabbath," or "An Explanation of the fourth Commandment," Oxon. 1632, 4to. 9. "Commentarii in Hisbe Arbitotelii," Oxon. 1640, 4to. 10. "A Declaration of the Patriarchal Government of the Ancient Church," Oxon. 1641, 4to.; Lond. 1647; Bremen, 1701, 8vo. Ward's Lives of the Professors of Greinham College, p. 74, &c.

BRESANY, or BREZAN, in Geography. See Breszany.

BRESA, a small town of Sardinia, in the north part of the island, in the proximity of Bologna; the capital of which is called "Capo di Lugatori." BRESIA, or BRESCIA, or BRESCIANO, a country of Italy, formerly a part of Lombardy, but now belonging to the Cisalpine republic, is bounded on the north by the county of Bormio, on the north-east by the Trentin, on the east by the Veronese, from which it is separated by the lake Garda, on the south by the Mantuan and Cremonese, and the small lake of Idro, and on the west by the Bergamasco, from which it is in a great part divided by the lake Iseo. Brescia, though mountainous, is fertile in wine, oil, and maize, and has excellent pasturages, and some mines of copper and iron, and also manufactures of silk, paper, &c. The air is wholesome, and the country populous. Its principal rivers are the Adige and the Oglio. It became a province of the Venetian state in 1517; but Brescia, its capital, was taken by the French under Bonaparte, in 1796, and it formed a part of the Cisalpine republic by the 8th article of the treaty of Campo Formio in 1797, confirmed by the 12th article of the treaty of Luneville in 1801.

Brescia, in Latin Brixia, the capital of the above province, is situated on a beautiful plain on the small river Garza. It is large, being reckoned about a league in circumference, well fortified, having a castle on a hill, and is said to contain about 50,000 inhabitants, of whom are rich and noble, and others are ingenious and diligent in carrying on several manufactories of linen, and particularly fire-arms, swords, knives, and other cutlery wares. It is enclosed with walls, in which are five gates; the streets are handlome and clean, most of them being watered by little streams from the river, and the buildings are good. It has several public squares, the largest of which is surrounded with piazzas, and in the centre of which is the town-hall. The palace, where public business is transacted, is a magnificent stone structure, built from the ruins of a temple of Vulcan, and remarkable for its architecture and paintings in fresco. Besides the cathedral, this city has 19 parish-churches, 30 convents, a general hospital, and several charitable foundations. The cathedral is a modern edifice, to the rear of which cardinal Quirini, once bishop of this city, contributed liberally; and he also presented the city with a library; in acknowledgment of which the magnificence, in 1759, erected two marble statues to his honour, one in the church, and the other at the entrance of the library. In the cathedral is exhibited the famous standard of Contantine; and this, as well as several of the churches, are adorned with beautiful statues and paintings. The magnificence, before the revolution, consisted of 600 citizens, divided into inferior councils, under a noble Venetian, who prefixed as governor, or podestat. This city was the see of a bishop, suffragan of Milan. Brescia is said to have been built by the Cenomani, commanded by Belovejus; and as others affirm, by Brennus; and it afterwards became a Roman colony. It was burnt by Radagasius, king of the Goths, in 412, and re-established by Attila in 452. It was afterwards peopled by the Lombards. Charlemagne, having defeated king Didier in 771, entered Brescia, and built the church of St. Denis. In 1426, after having suffered much by the troubles occasioned by the duke of Milan, it surrendered itself to the republic of Venice. Gallon de Foix, general of Lewis XI. took it in 1512 from the Venetians, and abandoned it to pillage, with the exception of the house inhabited by Chevalier Bayard; but in 1517, it was restored to the Venetians. It was visited by a plague in 1578, which swept away 25,000 persons, and again by a similar calamity in 1534. Brescia was the birth-place of Tartaglia, the famous mathematician, and of Gambara, the poet, who died in 1596. It is distant about 44 miles E. of Milan, and 32 N. W. of Mantua. N. lat. 45° 31'. E. long. 10° 5'.

BRESICATI, in Commerce, a kind of bays, which supplies the negroes between the river Gambia and Sierra Leone. The chief ports for this trade are the blue and red. BRESIO, in Geography, a small island of France, with a fort upon it, in the gulf of Lyons, near the coast of Languedoc, or Herault, about a league S. of Agde; which see. BRESILLO. See Bresilc.

BRESINI, a small town of Poland, in the latitudinal of Lenceszcz.

BRESINS, or Bresons, a small island of the Atlantic, near the south-west coast of England.

BRESK, or BRESCAN, a town of Africa, in the kingdom of Algeris, seated on the sea coast, at the bottom of a bay in the Mediterranean; 50 miles W. S. W. of Algeris. N. lat. 30° 50'; E. long. 2° 36'.

BRESKENS, a town of Flanders, in the island of Cadzand; 16 miles N. of Sluis.

BRESLAU, or WROCLAW, a principal city of Silesia, bounded on the N. and N.E. by that of Oels, on the S.E. by that of Breslau, on the N. and E. by the Oder, and on the S. by the Breslau. This district forms a kind of large square, about 25 miles in length, by 16 in breadth. The country is very level; and the parts of it nearest the rivers, are either sandy or swampy. It is, however, an excellent corn country, and not deluged of rich pasturage ground; it abounds with sheep and cattle; and near the capital, the coves are of an uncommon size, and yield a proportionate quantity of milk; and this part of the country produces great quantities of madder. Wood is everywhere scarce, except in the circle of Namslau; and the roads are so bad, as to be in some places impassable; but this inconvenience is remedied, particularly in the vicinity of Breslau, by dykes and canals, which are kept in repair at a great annual expense.

On the partitions of Silesia in 1824, among the sons of Ultras, the sons of Breslau fell to the share of Bolehout Altus;
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but disputes occurring among his successors, it was sold by
one of them, viz. Henry VI., to John, king of Bohemia,
who, after the death of Henry, in 1355, incorporated it
with the crown of Bohemia, endowing the city, at the same
time, with divers important privileges; and the kings of
Bohemia always appointed governors over that principality.
In 1357, king John assigned the government to the city of
Breslau; and, in 1505, king Whidduuf transferred the ju-
dicature of the whole principality to the same city: so that
the chief magistrate occupied the part of governor until the
year 1637, when both the government and judicatures were
surrendered to the emperor Ferdinand III., and in this
state it continued, till it was united to Prussia. It is di-
vided into four circles; viz. those of Breslau, Neumarkt,
Cauth, and Namdlau; and, together with the district of
Glogau, it includes 55 cities, 108 towns, 14 market-towns,
and between 5 and 6 thousand villages, 2000 catholic
churches, 607 protestant churches, 20 abbeys, 91 convents,
and 39,000 hearths in the cities. The principal river of
this principality, of which the property and jurisdicition
belong to the king, is the Oder, which, in its course
through the country, receives the inferior streams of Ohlau,
Lohe, Weyda, and Weiltitz.

Breslaw, or Breslaw, the capital of the above-de-
scribed principality, and of the whole duchy of Silicia, is
situated on the south side of the Oder, which receives the
Ohlau after its winding course through Old Breslau. This
place, the antiquity of which is uncertain, was set on fire by
the Tartars in 1241, and was formerly environs by the
Ohlau, as with a moat; and all without the Ohlau to the
walls in their present position, were additions made by the
emperor Charles IV. The Neukast is more modern, and,
since the year 1529, has been included within the fortifica-
tions, which are now, indeed, of no great importance.
The whole town, both old and new, including the suburbs,
is of great extent, being no less than two German miles in
length. It is reckoned one of the most beautiful cities in
Germany; and has several large regular squares, broad
streets, and flatly edifices, both public and private. The
Roman cathedrals have several churches and convents; the Luthe-
rans have seven churches within the walls, and two without,
and two gymnasium; the Calvinists and the Greeks have,
each of them, one church; and the Jews have two synagogues.
The popish university is a noble edifice; and the exchange,
adjoining to the council-house, is an elegant structure.
Sveral of its monasteries and convents are magnificent build-
ings; and it has some good public libraries, with two armour-
cies, a college of physicians, and a mint. Brellau holds the
third rank, next to Berlin and Konigberg, among the cities of
Prussia. It is the centre of all the trade of Silicia, and its
manufactures are considerable and various. The number
of its inhabitants is estimated at about 52,000: and as it
has several annual fairs, it is much frequented by Hun-
garian, Bohemian, Pulihi, and other merchants. The mag-
ificacy, which is Lutheran, consists of a town-court and a
council; and its consistory is likewise Lutheran. This city
was taken by the king of Prussia in 1741; compelled to sur-
render to the Austrian in 1757; and retaken by the Prus-
sian army at the close of the same year, after a signal victory
over the Austrians in its vicinity. In the last siege, several
of its churches were much damaged, the library of St.
Mary Magdalen was destroyed by the burning of a bomb,
and its suburbs were considerably injured. N. lat. 51° 3'.
E. long. 17° 8' 45'.

Breslau, a town of France, in the department of the
Ois, and district of Beauvais; 7 miles S. E. of Beauvais.
—Als, a river of France, which rises near Aumale, and
separates the department of the Somme, from that of the
Eure, till it falls into the sea at Treport.

Bresma, in Ichthyology, a name given by Hildegard,
and several others, to the Bream, Cyprinus Brana,
which see.

Bresmal, John Francis, in Biography, a phy-
ician at Liege, was born in the year 1660. After studying
some years at home, he went to Paris, where he was ad-
mitted doctor in medicine, in 1689. In the course of his
travels, he had turned his attention, in a particular manner,
to investigating the properties of the most celebrated miner-
al springs, of which, on his return to Liege, he published
analyses, giving also accounts of their virtues in the cure of
diseases. "The titles of his works are, "La circulation des
eaux, ou Hydrographie des mineraux d'Aix, et de Sprs."
Liege, 1695, 12mo. "Description, feu analy"se de fontis,
S. Agidis, prope Tunyros," 1700, 12mo. He cites a de-
cription of this spring from Pliny, "Paralde des eaux
minerales chaudes et froides du diocese de Liege. Avec un
avis au public, pour le prefervr de la tele, &c." 1721,
8vo. For the titles of other works by this writer, on the
fulcit of mineral waters, see Eloy, Diet. Hill.

BreSsian, in Geography. See Brescia.

BreSsai, or Bressa, one of the Shetland islands of
Scotland, about 4 miles long, and 2 broad, separated from
the main land of Shetland by a narrow sea, called "Breslay
found," forming a spacious harbour, in which a thousand
ships may ride at the same time. In this harbour, the
Dutch vessels, employed in the herring fishery, assemble
about the middle of June. The inhabitants of Breissay fit
out about 26 large fishing boats. The mountains supply
flute for building, and peat for firing. N. lat. 60° 20'. W.
long. 0° 56'.

Bress, a country of France, so denominated before
the revolution, from a forest called "Brexia," situate in
the province of Burgundy, and bounded on the east by Sau-
voy, on the south by Viennois, on the west by Lyonnais
and Dombes, and on the north by Franche Comté. It is
estimated at 40 miles from north to south, and 23 from east
to west. It is fertile in corn and hemp, and has fine pa-
tures and several lakes, abounding with fish. For some
time, it was an eardom subjuct to the dukes of Savoy, who
retained it in 1601 to France, in lieu of the marquisate of Sa-
luzio. The principal towns are Bourg, the capital, Beauce
or Bauge, Coligny, Montreuil, Loge, and Pont de Vaux.

BreSscil, or Breste. See Bresc.

BreSsoles, see Bresoles.

BreSsuire, a town of France, in the department of
the Sevres, and chief place of a canton, in the district of
Thouars. The town contains 630, and the canton, 5911
inhabitants: the territory includes 290 kilometres, and 13
communes.

BreSsus, or Brepus, in Ancient Geography, a town
of Aia in Armenia Major, situate near the Ephrataes,
according to Ptolem.

BreS, or Breast, in Architecture, a term used by
some, for that member of a column otherwise called the
Tare.

BreS-Summers, or Bressumers, in Building, are
pieces of timber designed for the support of the brick-work
in the front or rear wall of a building, for carrying arches,
and. In the inner parts of a building, the pieces into which
the girders are framed are called summers.

BreSt, in Geography, a seaport town of France, and
principal place of a district, in the department of Finiterre.
The number of inhabitants in the 3 parts, into which it is di-
vided, is estimated at 27,000; the first canton contains
13,000, and includes 52 kilometres, and one commune;
the second contains 17,275 inhabitants, and comprehends 24 1/2 kilometres, and 5 communes; and the third canton includes 14,406 inhabitants, 223 kilometres, and one commune. Breast is feated on the declivity of a hill on the side of its port; and its streets, which are few in number, are narrow and inconveniently contrived. It has two parish churches, a marine seminary, and a court of admiralty; but it is principally famous for its spacious road and harbour, which are reckoned, (if we except Toulon), the largest and the safest in the whole kingdom, and capable of containing 300 ships of war, in 8, 10, and 15 fathions, at low water. Its entrance from the west south-west, called the "Gullet," is narrow and rocky, and the passage is difficult and dangerous, on account of the funken rocks on both sides of the flore. The entrance is also guarded by a strong castle seated on a rock on the sea-side, and defended on the land-side by a large ditch and other fortifications. On one side of the port is a large quay, more than a mile long, and 200 paces broad, covered with flore houfes for various kinds of mercantile; and, on the other side, there is also a quay, for the warehouses, and the fine church of Notre Dame; and in a suburb, about half the size of the city, there is a strong tower opposite to the castle at the entrance of the harbour. At the bottom of the harbour, to which the range of magazines on the quay nearly extend, there are two docks for the building of ships, adjoining to which are the slips and houfes of the workmen; and one of these docks separates the rope walks from the city. The arsenal of Breast is a very large and magnificent building, plentifully supplied with different kinds of naval flores. This was entirely consumed by fire in the year 1744. In 1604, an attempt was made by lord Berkeley, who commanded a fleet of twenty-nine ships of war, with a number of fire ships and bomb-ketches, and general Tallmahe, who had the command of twelve regiments of infantry, and two of marines, to feize on Breast. But whilft the failing of this expedition was delayed by counter-intrigues, the king of France dispatched marechal Vauban to repair the old, and to raise new fortifications, and a large body of troops to defend them. When the English armament arrived, the French were prepared in great force to repel it; and, therefore, the attempt, though conducted with singular resolution, was defeated, with the loss of 900 British soldiers, and 400 seamen, and of general Tallmahe, who died of his wounds, and who, in the agonies of death, complained, that he had fallen by the treachery of his countrymen. N. lat. 48° 22' 55''. W. long. 4° 32' 50''.

Breast, bay of, an American bay on the coast of the Western ocean in New Britain. N. lat. 52° 10'. W. long. 5° 20'.

Breast, Cape, lies in the Pacific ocean, on the east coast of the north island of New Zealand, within about 7 leagues of several small islands, close under the main, called "Ca-valles". S. lat. 35° 7'. E. long. 173° 52'.

Breath, in Ichthyology, a name which the people on the coast of Lincolnshire give to the common turbot, a fish extremely common with them, and taken in vast abundance. The way of catching them is in a net, trailed it is fayed upon the ground by two horses; the one going up to the middle of his body in the water, the other on the flore. The turbot is known by the name of Brett among the fisher men, on many of our sea coasts, but most commonly, the smaller turbot only are distinguished by that title; when they have attained to a moderate size for the table, they are called turbot. It should be further observed, that the pearl, Pleu renicnts Rhambus, likewise obtains the name of Brett in some parts of the country. Brett is the name of the turbot almost throughout the north of Britain.

BRETHREN, in Middle Age Writers, denote wooden towers or cables, wherewith towns or camps were defended. Du Cange Gloss. Lat.

BRETAGNE, in Geography. See BRITANY.

BRETCHEN, or BRETAIN, a small town of Polish Prussia with a cable on the same river, in the territory of Culm; 47 miles E. of Culm.

BRETENOUX, a town of France, in the department of the Lot, and chief place of a canton in the district of Vigene; 4 miles N. N.W. of St. Cerc. The place contains 395, and the canton 8.774 inhabitants; the territory comprehends 149 kilometres, and 15 communes.

BRETTESSED, in Heraldry, a term used by French heralds to express any charge that is embattled on both sides opposite to each other.

BRETEUIL, in Geography, a town of France, in the department of the Eure, and chief place of a canton, in the district of Evreux, 5 leagues S. S. W. of Evreux. The place contains 183, and the canton 12,775 inhabitants; the territory includes 187 1/2 kilometres, and 14 communes.

Bretueuil, is also a town of France, in the department of the Oise, and chief place of a canton, in the district of Charnon, 34 polls S. of Amiens. The place contains 2160, and the canton, 14,232 inhabitants; the extent of the territory comprehends 147 1/2 kilometres, and 19 communes.

BRETHREN and SISTERS of the Free Spirit, in Ecclesiastical History, an appellation assumed by a new sect which sprung up towards the close of the thirteenth century, and gained many adherents in Italy, France, and Germany. They took their denomination from the words of St. Paul, Rom. chap. viii. ver. 2, 14, and maintained, that the true children of God were invested with the privilege of a full and perfect freedom from the jurisdiction of the law. They were enthusiasts to a degree of distraction, both in their principles and practice. They resembled the BEGARDS, by which name they were sometimes called, in their aspect, apparel, and manner of living. Some of their protest principles resembled those of the PANTHEISTS; for they held, that all things flowed by emanation from God; that rational souls were portions of the Deity; and that the universe was God; and that by the power of contemplation, they were united to the Deity, and acquired thereby a glorious and sublime liberty, both from the sinful lusts and the common instincts of nature: and hence they concluded, that the person who was thus absorbed in the abyss of the Deity, became a part of the Godhead, and was the son of God in the same sense and manner that Christ was, and that he was freed from the obligation of all laws, human and divine. They treated with contempt all Christian ordinances, and all external acts of religion, as unsuitable to the state of perfection at which they were arrived. Some of them were honest but deluded enthusiasts; and they endured the torments inflicted upon them by the inquisitors with astonishing calmness and triumph. Others proceeded to the most extravagant licentiousness of conduct. They held their secret assemblies flark naked, and lay in the same beds with their spiritual fathers, and indiscriminately with other women, without the least scruple or hesitation; modesty and decency being, according to their creed, marks of inward corruption. And some of them proceeded still further, and maintained, that the DIVINE MAN, or believer, could not sin, let his conduct be ever so horrible or atrocious. Many edicts were published against them; but notwithstanding the severity they suffered, they continued till about the middle of the fifteenth century. They were called by several other names, such as Schweffelhuts, Picards, Adamites, and Turlupins. Moultin's Ecc. Hist. vol. iii. p. 122, &c. 202, &c. 273, &c.
Brethren and Clerks of the Common Life, a denomination assumed by a religious fraternity towards the latter end of the sixteenth century. They lived under the rule of St. Augustin, and were evidently useful in promoting the cause of religion and learning. Their society was first formed, in the preceding century, by Gerard de Groot, a native of Deventer; but did not flourish till about the period above-mentioned, when it obtained the approbation of the council of Conclave, and became very respectable in Holland, the Lower Germany, and the adjacent provinces. It was divided into two classes: the Lettered Brethren, or clerks, and the Infradit, they lived in separate habitations, but maintained the closest fraternal union. The former applied to the study of polite literature, and the education of youth; whilst the latter were employed in manual labour, and the mechanic arts. Untrained by religious vows, they nevertheless had all things in common; and this community was the great foundation of their union. From the schools erected by the clerks proceeded many celebrated personages, who contributed to the revival of literature and taste in Germany and Holland; such as Ensennus, Hegius, Mermelius, &c. They were frequently called Echardens, and Rallards, by way of reproach. Moellers, vol. iii. p. 252.

Brethren, White, Fratres Alciati, were the followers of a leader about the beginning of the sixteenth century, who was arrayed in a white garment; and, as they were also clothed in white linen, they were distinguished by this title. Their leader was a priest from the Alps, who carried about a crose, like a standard, and whose apparent sanctity and devotion drew together a number of followers. This induced enthusiasm propagated many acts of mortification and penance, endeavouring to persuade the European nations to renew the holy war; and pretended that he was favoured with divine visions. Boniface IX, apprehending that this enthusiasm or impostor concealed infamous and ambitious views, ordered him to be apprehended and committed to the flames, upon which his followers dispersed. Moellers, vol. iii. p. 255.

Brethren of the Obscurans. See Obscurans.

Breton, in Geography, a river of England, which runs into the Stremer, near Hadleigh in Suffolk.

Breton, a sand-bank, about two miles from the coast of France, in the English channel, and at the same distance south from Granville, towards Capel Bay, the middle of which is dry at low water.

Breton, Cape, lies at the north end of the lake which extends northward from the Bayonne river at the bottom of the bay of Biscay. It is known at Bayonne by its flat tower, and often called "Carbron."

Breton, Cape, an island, or rather a collection of islands, called by the French, "Les Isles de Madame," situated in the Atlantic ocean, on the coast of North America, between 45° 28' and 47° N. lat. and between 66° 4' and 67° 30' W. long. and about 45 leagues E. of Halifax. This island is about 160 miles in length, and from 29 to 34 in breadth; and, though attached to Lower Canada, is separated from Nova Scotia by a narrow strait, called the "Gut of Caplis," which forms the communication between the Atlantic ocean and the gulf of St. Lawrence. It is surrounded with sharp pointed rocks, separated from one another by the waves, above which some of their tops are visible. All its harbours are open to the eait, turning towards the south; and on the other parts of the coast there are not a few anchoring places for small vessels, in creeks or between illets. The soil is generally swampy and moity, and unfit for agriculture; and as it abounds with lakes and forests, the climate is cold and foggy. The scarcity and poverty of pastures have likewise prevented the increase of cattle. Although it abounds in timber, such as pine, beech, birch, maple, spruce, and fir, it has derived little advantage from it. The fur-trade of this island has always been very inconsiderable; its peltry consisted only in the skins of a few lynxes, elk, musk-rats, wild-cats, bears, otters, and foxes, both of a red and silver and grey colour. Some of these were procured from a colony of Micmac Indians, who had settled on the island with the French, and never could raise more than 60 men able to bear arms. The rest came from St. John's on the neighbouring continent. The fisheries is a much more important object; and, in 1743, when this island belonged to the French, the whole value of it is said to have amounted annually to a million sterling; and no less than 534 ships, besides small boats, and 27,000 seamen, were employed in this trade. At present the inhabitants of the island take about 30,000 quintals of fish annually, which are shipped for Spain and the Frits, principally by merchants from Jersey (belonging to England) who yearly reftor hith and keep stores of supplies for the fishermen. Part of their fish was sent to the French southern islands, in 20 or 25 ships from 70 to 140 tons burden. Besides the cod, which made at least half their cargo, they also exported to the other colonies, timber, planks, thin oak-boards, salted salmon and mackerel, turin, and sea-coal. In return they received sugar and coffee, rum and molasses; the overplus of which they conveyed to Canada and to New England, where they obtained in exchange, fruits, vegetables, wood, brick, and cattle. Besides this allowed trade, they also carried on a clandestine or smuggling commerce, in flour and salt-fish. In this island there is a very extensive bed of coal, which lies in a horizontal direction, about six or eight feet below the surface; but this has been chiefly used as ballast. In one of the pits a fire has been accidentally kindled, which could not yet be extinguished. These mines yield a revenue of 12,000l. yearly to the crown. The number of inhabitants in Cape Breton does not exceed 1000.

This island was discovered, according to the French authors, about the year 1500, by the Normans and Bretons, who navigated these seas; and as it was supposed to be a part of the continent, it was called Cape Breton, which appellation it has absurdly retained. But though it had been for some time a place of resort for fishermen in the summer, the French did not take possession of it before the year 1713; they then changed its name into that of "Ile Royale," and fixed upon fort St. Dauphin as their chief settlement. But as this harbour, though spacious and sheltered from winds, was difficult of access, they directed their views to another situation; and in 1720 commenced their fortifications at Louisbourg. The settlers were chiefly Europeans; the Acadians and French of Nova Scotia not choosing to leave that country. This island remained in the possession of the French till the year 1745; when it was captured by the New-England militia under the command of William Pepperell esq., colonel of the militia, and a squadron under commodore Warren. It was afterwards referred to the French, and retaken in 1758, by admiral Boscawen and general Amherst; and finally ceded to Great Britain by the peace of 1763; since which period the fortifications have been blown up, and the town of Louisbourg dismantled. This island, with respect to matters of government, was considered as annexed to Nova Scotia, till the year 1784, when it was erected into a separate government by the name of Sydney, its capital. The other principal town is Louisbourg. The present seat of government is at Spanish river, on the north side of the island. This island may be regarded as the key to Canada, and the fishery in its neighbourhood depends on its protection; and the most convenient harbour for its security and supply is Louisbourg.
BRETON, Pertuis, or Breton channel, lies on the west coast of France, and on the north of the island of Rhé, between that island and the main.

BRETON, Port, lies at the extreme part of the Mediterranean, on the coast of Syria in Asia; N. N. E. from Larissa gulf, at a distance of about 14 or 15 leagues.

BRETONNAYAN, René, in Biography, practiced medicine with reputation at Turin, towards the end of the 16th century, but is only now known by a singular work in verse: "La Generation de l'homme, et le temple de l'ame, avec autres œuvres poetiques extraites de l'Encyclopaie, de R.B." Paris, 1583, 4to. In the course of the poem the author treats of the fome, gout, melancholy, colic, &c. The heart he calls the sun of the microcosm; the liver the temple of human nature. He describes also a variety of cosmetics to beautify the skin, which was at that time very much the custom, among writers on medicines, particularly those who treated on the diseases incident to women. Haller. Bib. Ch. Eloy. Dict. Hist.

BRETOYSE, or Bretois, the law of the marches of Wales; in use among the ancient Britons.

BRETTA, or Brethene, in Geography, a town of Sweden, in the province of Dalecarlia, at the western extremity of the lake Vener or Wener, and at the distance of about half a Swedish mile from Wenerborg.

BRETTEN, or Bretehine, a town of Germany, in a prefecture of the same name, in the circle of the Lower Rhine, and patrimonate of the Rhine, seated on a hill on the Satzbach, and accommodating the Roman catholics, Lutherans, and Calvinists, in their respective worship. It is famous as the birth-place of Philip Melancthon. It was set on fire by the French in 1589; distant 21 miles S. from Heidelberg, and 18 S. E. from Spire.

BRETEVILLE sur Laïe, a town of France, in the department of the Calvados, and chief place of a canton in the district of Falaîne; 10 miles N. N. W. of Falaîne. The place contains 790, and the canton 14,450, inhabitants; the territory comprehends 230 kilometres, and 41 communes.

BRETEVILLE l'Orquenville, a town of France, in the department of the Calvados, and chief place of a canton in the district of Caen; 2 leagues W. N. W. of Caen.

BRETTIGAU. See Prettigau.

BRELAY, a town of France, in the department of the Seine and Oise, and district of Mantes, one league S. W. of Mantes.

BREVA, a town of France, in the department of the Upper Marne, and district of Chaumont, 6 miles S. of Bourmont.

BREUDEL, John Philip, in Biography, a Dutch physician of eminence, who lived the latter end of the 17th and the beginning of the 18th centuries, only now known by a "Collection of medical consultations," which he published in 1615, at Franckfort, 4to. and which were much esteemed.

BREUDEL, Zachary, born at Jena in Saxony, in 1592, was initiated into the knowledge of medicine by his father, who was one of the professors in that university. In 1617, he was made doctor, and, on the decease of his father, professor in medicine, an office which he filled several years with distinguished attention and ability. He has left several works, the principal of which are "Chemia in artia formam redacta," Jena, 1650, 12mo.; "De Medicina, arte nobilitissima," 1629, 4to.

BREUDEL, Adam, professor in anatomy and botany in the university of Wittemberg, distinguished for his knowledge of the Greek language, as well as for his skill in his profession, published, in 1700, a collection of inaugural dissertations, among which Haller notices, as of superior value, "De hydropoe ovarii maliebris," in which he gives an accurate description of that organ; "Embryonem in ovulo ante conceptum," an opinion which is now pretty generally accepted to; "De nutricione fetus in utero materni." He also published "De lapidicna microcosmi," 4to. 1701, showing the varieties in stones found in the kidneys and bladder. He relates the case of a young woman who destroyed a fetus she was pregnant with, and procured abortion, by palling a fillet up the vagina into the uterus, but her life fell a sacrifice to the experiment: also, "Observationum anatomicae decades tres," 4to. They came out from 1696 to 1678. In the third part he describes the exhauling vessels of the heart.


BREVE, Brevis, short, in Grammar.—Syllables are distinguished into long and breve, according as they are pronounced quicker or more slowly; the time of a breve is half that of a long, or, as the grammarians express it, a breve is one time, and a long two. See Accent.

Breve, is used in the civil Law for a short note or minute.

In which sense the word is also written brevis (subauda libellus) and in English Brief or breve: amounting to much the same with what is otherwise called schedula and brevicia. See Brief.

Breve more particularly denotes a list or register of the names of the forders under the command of a general.

Breve more particularly used in Common Law for a writ or brief; by which a man is summoned or attached to answer in action; or by which any thing is commanded to be done in the king's courts, in order to justice &c. It is called "breve" from the brevity of it; and is directed to the chancellor, judges, sheriffs, and other officers. See Writ. Hence, Breve perquirere, is to purchase a writ or licence of trial in the king's courts by the plaintiff; and on this depends the usage of paying to the king in suits for money on bond, 6s. 6d. when the debt is 40l. and 10s. when it is 100l.

Fitzherbert has given a new Natura Brevium; thus called by way of distinction from an Old Natura Brevium, composed about the time of Henry III. There is a copy of this book of Fitzherbert filled with manuscript notes by Sir M. Hales, in Dr. Williams's Library in Red Cross Street.

Breve de recto, see Recto.

Breve, in Maffe, is a note or character of time, formed square without any tail; and equivalent to two measures, or semibreves. See Characters of mafe, and Semi-breve.

In fugues, tempo di capella, of two semibreves in a bar, the movement is said to be alta breve, from a bar containing one breve or two semibreves, and from the rapidity with which these seeming long notes are executed; breves as quick as semibreves, and semibreves as quick as minimas, &c. See Time-table, and Notation.

Breve, Breve de Bengal, Breve des Philippines, and
Breves de Madagascar, in Ornithology, names given by Buffon to different varieties of Corvus Brachyrurus.

Brevis, u. See Vans brevis.

Breven, in Geography, a mountain of Switzerland, situated on the side of the valley of Chamouny, and opposite to the glaciers. The height above the Mediterranean is calculated at 8538 feet.

Breven, in the French Law, denotes an act issued by a secretary of state, importing a grant of some favour or donation from the king. The word is formed from the middle age Latin, brevettum, of breve, short. In which sense brevet amounts to much the same with our warrant. They say a brevet of nomination, a duked by brevet; such a person had a brevet of a marshal of France.

Brevet more particularly denotes the commission of a full-barter officer being only written on parchment, and without seal. A brevet-office is one whole rank is above his pay; e.g., a brevet-major serves only as a captain, and receives pay as such. Hence, a full-barter, who obtains rank by brevet is under a necessity of discharging the additional expenses of his new dignity, together with the fees of his new commission, without additional pay.

Brevet, in the Sea Language, is sometimes used for a bill of lading.

Breughelet, or Breughelet, Peter, in Biography, commonly called Old Breughelet, in contradistinction to his son, an eminent painter and engraver, was born at Breughelet, a village near Breda in 1510, and acquired the first principles of his art from Peter Cock or Koeck-van-Ael, whole daughter he married. He afterwards travelled in France and Italy; studied nature, amidst the mountains of Tyrol and the scenery of the Alps; and availed himself of the works of the greatest masters in Italy. On his return from Italy he resided for some time at Antwerp, and from thence he removed to Bruffel. Whilst he was employed by the magistrates of this city in taking views of the canal which falls into the Scheldt, he sickened, and died in 1570; after having caufed to be burned in his presence all his licentious and fatirical designs. He chiefly excelled in landscapes, and droll subjects, resembling those of Jerom Bosch; and he was particularly fond of representing the marches of armies, robberies, skirmishes, sports, dances, weddings, and drunken quarrels; and in order to acquire greater skill and accuracy in this kind of representations, he often affumed the habit of a penfiant, and joined the meaner boors at their feats and amusements. His figures were correct, and their draperies well chozen; the heads and hands were touched with spirit; and his expression, though not elegant, was true. His principal performance is in the emperor's collection at Vienna, which is the "Representation of the building of the tower of Babel, by Nimrod." Several of his paintings are in the cabinets of the emperor and elector palatine, and dispersed through various parts of Europe. For his amusement he engraved some few landscapes and grotesque subjects. Pilkington and Strutt.

Breughelet, Peter, the younger, known by the appellation of the "Hellish Breughelet," from his delight in representing horrible subjeft, the son of the preceding artist, was born at Bruffel, and became the disciple of Gelles Coninglou. His compositions rather excite disgust than satisfaction; and his human figures, though freely pencilled and not ill coloured, are not much more elegant than those of the infernal kind. In his historical subjefts he generally introduced witches and devils; such as Orpheus charming Pluto and Proserpine to procure the deliverance of Eurydice, surrounded with horrible forms and appearances; Saul and the witch of Endor; or St. Anthony's temptations. He also was an engraver. He died in 1643. Pilkington and Strutt.

Breughelet, John, distinguished from his mode of dress by the appellation of "Velvet Breughelet," was the son of Peter Breughelet the Old, and born at Bruffel in 1560. He was instructed, probably, by his father, and by other artists; but, whoever were his instructors, he acquired an eminence in every art of painting, in colouring, in design, and in pencilling, far superior to that of his father, and of all his contemporaries in his style. He began with painting flowers and fruit, which he executed with admirable skill; and then proceeded to landscapes, sea-pieces, and markets, in which he introduced a number of small figures, surprizingly exact and correctly drawn. At Cologne, where he resided for some time, he gained an extraordinary reputation; and his pictures were well known and admired in Italy, in which country he spent some time. He died, according to the most probable accounts, in 1625. That the industry of this artist must have been singular, sufficiently appears from the number and variety of his pictures, and the exquisite neatness and delicacy of their execution. It has been lamented, however, by connoissours, that his distances are overcharged with a bluish tinge. Breughelet often decorated the pictures of his friends with small figures, thus greatly enhancing their value; he was employed in painting flowers, fruits, animals, and landscape scenery, in the pieces of history-paintings; and in this way Rubens made occasional use of his pencil. He sometimes joined this matter in larger works, which have been much admired; and particularly in a "Vertumnus and Pomona," a picture three feet high and four broad, highly commended by Houbraek, and sold at Amsterdam for above 280l. "Ering; and "a Terrestrial Paradise," painted for Charles I. king of England. In the gallery of the archiepiscopal palace at Milan, there is an admirable landscape of Breughelet, representing a desert, in which Giovanna Battia Crephi painted the figure of St. Jerom; and among a great number preserved in the Ambrosian library in that city, there is an oval picture of the Virgin, painted by Rubens, which is encompassed by a garland of flowers admirably executed by Breughelet. Most considerable cabinets poiffe speciments of the art of this master. Some small engravings of landscapes &c. are also ascribed to Breughelet. Pilkington and Strutt.

Breughelet, Abraham, called the Neapolitan, was born at Antwerp in 1515; and removing to Italy at an early age, he studied with such success, that he acquired a degree of reputation, which made his works much sought for, and highly valued. Nature was his model; and he represented his objects with elegance and truth, with a warm and natural colouring, and with a broad and free touch, which indicates a ready and expert hand. The performances of this master are classed among those of the most admired artists. The fortune, acquired by his profession, was considerable; but, he left the whole of it by the dishonesty of a merchant in whom he confided, and died in consequence of the grief occasioned by this misfortune. Pilkington.

Breughelet, Peter, of Bois le Duc, took his degree of doctor in medicine at Padua, and was in such esteem with Philip II. king of Spain, that he was by his command appointed professor in medicine at the university of Louvain, though, from his frequent attendance on the nobility in the neighbouring provinces, he was not able to perform the duties of that office. On his death, which happened in the year 1577, he left a sum of money to found a college at Louvain for his students, who were to be instructed in the different branches of medicine. The college, which is still
in existence, bears the name of the founder; but no addition having been made to the revenue, it is now only capable of maintaining three students. Eloy, Dict. Hist.

BREVIA, a title, mentioned by Ecclesiastical Writers, were written memorandums, introduced to perpetuate the tenor of the conveyance and infeuditure of lands, when grants by parol only became the occasion of dispute and uncertainty. To this end they were registered in the deed the persons who attended as witnesses, and heard it read without signing their names; the clerk adding their names in a fort of memorandum. Modern deeds are an improvement and amplification of these. Blacklone's Comment. vol. ii. p. 337.

BREVIAIRE, to abbreviate or reduce a thing into a shorter compas. This is otherwise called abbreviare and in abbreviari.

BREVIAIUM, is more particularly used among Roman writers, to denote a book introduced by Augustus, containing the accounts of the empire. The design of it was for giving an account to the people how the monies levied on them were applied. The emperor Tiberius laid aside the breviarium, but it was resumed by Caligula.

BREVIA, an epitome and abridgment, or short flate of a thing. The word is Latin, breviation, though not pure, as appears from Seneca, who observes, that the ancients, in lieu of it, used summarium.

BREVIA was also used among the ancients for the place where the briefs, or what was written abbreviated, were preferred.

BREVIA, among Ecclesiastical Writers, denotes the office or service, both for day and night, as performed in the Romish churches.

BREVIA is more frequently used for a church-book, containing the office of the brevialry, that is, the prayers, and other parts of the service, with the several variations to be made therein, according to the several days, canonical hours, feasts, and the like.

D. Mege derives the name breviali from hence, that the ancient monks in their journeys, &c. had little books, wherein were the psalms and lefions read in the choir, collected out of large volumes: and F. Mabillon tells us, he has seen two such books in the archives of Citeaux; they were not above three fingers broad; their letter was exceedingly small, and confided mottly in abbreviations, preserving a whole period in a few syllabaks: whence they had a good tide to the appellation of breviaries, q. d. abridgments. Some deduce the appellation breviali hence, that when the popes retired in the Lateran palace, the office was read in the papal palace was much shorter than that said in the other churches of Rome; which office, thus abbreviated, was compiled by Innocent III., and called officium capellare, till such time as the Franciscan friars adopted the same, in conformity to the papal chapel, it became denominated breviarium, and shortly after was in general use. Marg. Vocab. Eclecf. p. 38. Menag. Orig. Franc. The first time the word breviali occurs, in the sense of a church-book, is in a letter of the archbishop of Lyons to the bishop of Langes, in 1009; or rather by Micrologus, who lived in 1080.

The Roman breviali is general, and may be used in every place: but on the model of this have been formed various others, peculiarly appropriated to each diocese, and each order of religious.

The breviali consists of the services of matins, lauds, prime, third, sixth, none, vespers, and the complines, or poff-communio; that is, of seven different hours; on account of that saying of David, Septies in die laudem dixi tibi. The obligation of reciting the breviali every day, which was at first universal, by degrees was reduced to the beneficiary clergy alone, who are bound to do it on pain of mortal sin, and of refunding their revenues, in proportion as they are delinquent herein. In the fourteenth century, there was a particular reservation in favour of bishops, for palfing, on occasion, three days without rehearsing the breviali. The institution of the breviali not being very ancient, the lives of the saints were infected in it, agreeable to the opinions of the times, i. e. full of ridiculous ill-attired facts; which gave a handle to several purgations, or reformations thereof, by several councils, particularly those of Trent and Cologne; by several popes, as Pius V. Clement VIII. and Urban VIII. as also by several cardinals and bishops, each of whom lopped off some of the extravagancies, and brought the work nearer to the simplicity of the primitive offices; as acknowledging, that in the ancient church there was nothing read, but scripture itself. Cardinal Nigron carried the reformation the farthest; leaving out the little office of the Virgin, the verbes, responses, and a great part of the lives of the saints.

The breviaries now in use are almost innumerable: the difference between them consists principally in the number and order of the psalms, hymns, pater-nosters, ave-maries, credos, magnificats, cunctemufes, benedictures, canticles, nunix mitissimes, missaeres, balleius, glorypatris, &c.

The most eminent, after the Roman breviali, are those of the Benedictines, of the Bernardines, of the Chartreux, of the Præmonstratens, of the Carmelites, the Franciscans, and Jesuits; also that of Cluni, of the church of Lyons, the church of Milan, and the Mozarabic breviali used in Spain. But, in reality, there is scarcely a church in the communion of Rome, in France, Flanders, Spain, Germany, &c. that has not something particular in the form and manner of its breviali, though the differences are generally incon siderable. See Ambrosian, Gallican, &c.

The breviali of the Greeks, which they call μουσείον, horologium, q. d. dial, is nearly the same, in almost all the churches and monasteries that follow the Greek rite. The Greeks divide the psalter into twenty parts, μυχολογια, which are a kind of refts, pautes, or stations; and each paute is again subdivided into three parts. In general, the Greek breviali consists of two parts; the one containing the office for the evening, called μεσολογια; the other that for the morning, consisting of matins, lauds, prime, tierce, sixth, none, vespers, and complines. The breviali of the Maronites contains some more considerable variations.

Among the people who speak the Slavonic language, or any of its dialects, the breviali is recited in the vulgar tongue, as among the Maronites in Syria, among the Armenians in Armenia, &c. Those who recite the breviali in the Slavonic, are divided as to the rite; some following the Roman or Latin rite, as the inhabitants of Dalmatia and the neighbouring coasts; whereas those who live farther within the continent as in Hungary, Bohemia, Slavonia, &c. and in Poland, Lithuania, and Muscovy, follow the Greek rite. The breviali of the Copts and Abyssinians are much alike.

BREVIAE, is sometimes used for an abridgment, or short extract of a book or paper. Phil. Trans. No 57. p. 2212.

BREVIA, an officer under the eastern empire, whose business was to write and transcribe briefs. At Rome, those are still called breviators, or abbreviators, who dictate and draw up the pope's briefs. See Abbreviator.

BREVIDUS, et Rotulus liberandus, in Law, a writ or mandate
mandate to a sheriff, to deliver to his successor, the county, and the appurtenances, with the rolls, briefs, remembrances, and all other things belonging to that office.

Brevicornis, in Entomology, a species of Cerambyx that inhabits Sierra Leona in Africa. The thorax is un

Brevicornis, a species of Neoclytus found in Guinea. The wing-cases are very minute: head and thorax fuscous, with a longitudinal yellow line: antennae, very short and thick. Gmel. &c.

Brevicornis, a species of Cerambyx of an obscure or dull cuprous colour: antennae, very short and compressed; the anterioi thighs dentate. Fabr. This sort is from China.

Brevicornis, a species of Tipula of a black glossy colour: margin of the wings blackish: abdomen fuscous: anterior sers' spinous. Fabr. A native of Europe, called by Degeer, Tipula flavicnuda.

Brevicornis, a species of Monoculus that inhabits marches overgrown by the sea. It is simply described as having the hairs of the tail very short. Mitt. Stroem, &c. Off. The antennae in the male of this species are hooked; those of the female forked at the tips.

Brevier, among Printers, is the denomination of a small species of letters between minion and burtex. See Painting.

Brevine, in Geography, a town of Switzerland, in the principality of Neuchatel, 12 miles W. of Neuchatel. N. lat. 47°. E. long. 6° 23'.

Brevipes, in Entomology, a species of Staphylinus that inhabits Europe. The colour is deep black: wing-cases and legs tetractic: shanks short. Linn. Inhabits Europe.

Brevipilis, in Zoology, that variety of the dog (Canis) known by the name of king Charles's dog.

Breviss imus, in Anatomy, one of the extensor muscles of the cubitus, arising from the external spine of the humerus. Breviss radii, one of the supinator muscles of the radius, arising partly from the external condylus of the humerus, and partly from the upper and external part of the ulna; and inserted into the inferior part of the radius, which it embraces wholly; and serves to turn the palm of the hand upwards.

Breviss is also used by sone for the third of the extendors of the carpus, which, arising from the lower part of the humerus, and running along the radius, terminates in the bone of the carpus which futilities the middle finger. Some anatomists join this with the second extensor, and call them bicorns, or radialis externus: others choose to distinguish them because they have different origins, and insertions; and that their bellies are separable.

Breviss extensor politcis pedis. See Extensor.

Breviss flexor politcis pedis. See Flexor.

Breviss peronaeus. See Peronaeus.

Breviss pronator radii. See Pronator.


Brevity, in a general sense, that which denominates a thing brief or short.

Brevity is more particularly used in speaking of the style or composition of discourse. Brevity of discourse is by some called brachylogy and breviloquity; sometimes insinuous. Tacitus and Periplus are remarkable for the brevity of their style. There are two kinds of brevity; one arising from dryness, poverty, and narrowness of genius; the other from judgment and reflection; which latter alone is laudable. Brevity is so essential to a tale, a song and an epigram, that without it, they necessarily languish and become dull. Rhetoricians make brevity one of the principal marks or conditions of eloquence; but the rules they prescribe for attaining it, are difficult to apply, so as still to keep the due medium between too much and too little.

A full brevity is attained by using all the words which are necessary, and none but those which are necessary. Sometimes it may also be had, by choosing a word which has the force of several. It is this last kind which Quintilian admires so much in Sallust; and the imitation of which, by other writers, has caused so much oblivion. See Obscurity. Breviornus et,
was known to the Spaniards, the Gauls, and the inhabitants of the British islands, and the north of Europe. All the ancient malt liquors, however, seem to have been made entirely of barley, or some other farinaceous grain, and therefore were not generally calculated for long keeping, as this quality depends considerably, though not entirely, on the bitter extract of hops, or other vegetables, with which the liquor is mingled.

Modern malt liquor is essentially composed of water, of the soluble parts of malt and hops, and of yeast.

For a particular account of the preparation of Malt, we refer our readers to that article. It will be sufficient for our present purpose, to mention, that barley consists of endosperm or starch, albumen, and a little gluten; and, that by the procés of germination or malting, the starch is converted into saccharine mucilage. If each grain of barley was perfectly malted, the whole of its starch would be changed into sugar; this, however, is never the case; the soluble contents, therefore, of such malt as the brewers make use of, arranged in the order of their respective proportions, are saccharine mucilage, starch, albumen, and gluten, of which only the first is absolutely necessary for the production of a vinous liquor. Three or four different kinds of malt are distinguished by the brewer by their colours, which depend on the degree of heat that was used in the drying. Malt that has been dried by a very gentle heat scarcely differs in its colour from barley; if exposed to a somewhat higher temperature, it acquires a light amber-yellow hue; and by successive increments of heat, the colour becomes deeper and deeper, till, at length, it is black. The change of colour is owing to the grain being partially charred or decomposed; and in proportion to the extent to which this alteration is allowed to proceed, will the produc of sugar, that is of fermentable matter, be diminished. The principal advantage of high-dried malt over the paler kind, is the deep yellowish brown tinge which it gives to the liquor: but this colour may be communicated much more economically by burnt sugar. The malt, whether pale or high-dried, must be bruised between rollers, or coarsely ground in a mill before it is used, and it is found by experience, that malt which has lain to cool for some weeks is, in many respects, preferable to that which is used as it comes hot from the mill. The first step in the process of brewing is

§ 1. Malting.

This is performed in the malting-tun, which is a circular wooden vessel, shallow in proportion to its extent, and furnished with a false bottom, pierced with small holes, fixed a few inches above the real bottom: when it is small, it ought to have a moveable wooden cover. There are two side openings in the interval between the real and false bottom: to one is fixed a pipe for the purpose of conveying water into the tun; the other is fitted with a spigot for the purpose of drawing the liquor out of the tun. The malting commences by bruising the grain or bruised malt evenly over the false bottom of the malting-tun, and then, by means of the side pipe, letting in from the upper copper the proper quantity of hot water. The water first fills the interval between the two bottoms, then forcing its way through the holes in the false bottom, it flows into the grist, which, at first floating on the surface of the water, is thus raised off the bottom on which it was spread. When the whole of the water is let in, the process of malting properly so called, begins. The object in malting is to effect a perfect mixture of the malt with the water, in order that all the edible parts may be extracted by this fluid: for this purpose, the grist is first incorporated with the water by means of iron rakes, and then the mals are beaten and agitated, and still further mixed by long flat wooden poles, resembling oars, which indeed is the name by which they are technically known. In some of the large porter breweries, the extent of the tun is so great, that the process of malting cannot be adequately performed by human labour, and recourse is had to a very simple and efficient instrument for this purpose. A very strong iron scoop, of the same height as the malt-tun, is fixed in the centre of the vessel; and from this proceed two great arms or mals, of iron, and bent with vertical iron teeth a few inches slender, in the manner of a double comb: by means of a steam engine, or any other moving power, the iron arms which at first rest on the false bottom, are made slowly to revolve upon the central scoop, in consequence of which, in proportion as they revolve, they also descend through the contents of the tun to the surface; then, inverting the circular motion, they descend again in the course of a few revolutions to the bottom. These alternate motions are continued till the grist and water are thoroughly incorporated. When the malting is completed, the tun is covered in to prevent the escape of the heat, and the whole is suffered to remain still, in order that the insoluble parts may separate from the liquor: the side spigot is then withdrawn, and the clear wort is allowed to run off, slowly at first, but more rapidly as it becomes fine, into the lower or boiling copper.

The operation of malting, as it is the first in order, is the most important; and all the succeeding ones are modified according to the circumstances, under which this primary one is effected. The principal thing to be attended to, is the temperature of the malt, which depends, partly on the heat of the water, and partly on the state of the malt. If any quantity of barley is mingled with twice its bulk of water, the temperature of the mals will be very nearly that of the mean temperature of the ingredients. If the pale malt is subjected to the same experiment, the temperature will be somewhat greater than that of the mean heat. This excess is found to increase very rapidly, in proportion to the colour or dryness of the malt employed; so that when one part of the highest dried malt is mixed with two parts of warm water, the temperature will be no less than 140° Fahr. above the mean. In calculating, therefore, the heat of the malt, it is necessary to take into consideration, both the dryness of the malt, and the proportion which it contains of unmalted, or imperfectly malted barley. The object in malting is to extract from the malt, as much as possible of the saccharine mucilage; but this is so intimately combined with the other parts of the grain, that the range of temperature which can be employed for this purpose, is very confined. If the water was let upon the grist boiling hot, the starch which it contains would not only be dissolved, but converted into a gelatinous substance, in which all the other parts of the malt, and mals of the water, would be entangled, beyond the possibility of recovery by any after-processes; and great loss is perpetually sustained by inattentive brewers, from this very circumstance. The most eligible temperature upon the whole for malting, appears to be about 120° to 130° of Fahrenheit: the heat of the water, therefore, for the first malting, must be somewhat below this temperature, and the lower in proportion to the dark colour of the malt made use of. Thus, for pale malt, the water of the malt may be at 120° and upwards; but for high-dried brown malt, it ought not much to exceed 120°. The wort of the first malting is always by much the richest in saccharine matter; but to exhaust the malt, a second and third malting is required; and no heat is generated, except in the ill malting, the water in the succeeding ones may be
be fairly raised to nearly 150°. The proportion of wort to be obtained from each bushel of malt, depends entirely on the proportioned strength of the liquor. For small beer, 30 gallons of wort may be taken from each bushel of malt; but for the strongest ale, only the produce of the first mashing, or about 65 gallons per bushel, is employed. But whatever be the proportion of wort required, it must be held in mind, that every bushel of well made malt will absorb, and retain 31 gallons of water, and, therefore, the water made use of must exceed the wort required, in the same proportion.

It is of great importance to the brewer, to ascertain the strength of his worts, or their richness in saccharinaceous matter; this may be done, partly by the tate, but more accurately by an instrument called a Saccharimeter, which in fact is only a hydrometer, the scale of which is adapted to the various denitutes of wort. The name Saccharimeter, however, is an improper one, as it is apt to mislead the brewer; this instrument shows merely the specific gravity of the liquor, and this depends, not only upon the sugar, but the starch, and every other part of the malt which is soluble in water. But the relative proportions of these substances are, in all likelihood, very various in different parcels of malt; whence arises a serious objection to much dependence on the Saccharimeter.

§ 2. Boiling and hopping.

If one kind of liquor (whether ale or beer) is to be made, the produce of the three mashings is to be mixed together; but, if both ale and beer are required, the wort of the first, or of the first and second mashing, is appropriated to the ale, and the remainder is set aside for the beer. All the wort defined for the same liquor, after it has run from the mash-tun, is transferred to the large copper, and mixed while it is heating with the required proportion of hops. The stronger the wort, the larger proportion of hops does it demand; and this is calculated in two ways, either according to the quantity of malt employed, or the richness of the wort. Where the former basis of calculation is referred to, the quantity of hops, especially in private families, where economy is not so strictly attended to as in large establishments, is one pound of hops to a bushel of malt, whether the wort is intended for the strong ale, or the weakest small beer. In public breweries, the proportion of hops is considerably smaller, and is regulated, not merely by the quantity of malt, but the richness of the wort. For strong ales, the common proportion is about 1 pound of hops to 1.5 bushel of malt; for beer, the quantity is lowered to 1 pound of hops to 1.7 bushel of malt. When both ale and beer are brewed from the same malt, the usual practice is to put the whole quantity of hops in the ale wort; and after they have been boiled a sufficient time in this, to transfer them to the beer-wort, in order to be exhausted by a second boiling.

When the hops are mixed with the wort in the copper, the liquor is brought to boil; and the best practice is to keep it boiling as fast as possible, till, upon taking a little of the liquor out, it is found to be full of minute flakes, like curdled foap. These flakes consist of the gluten and starch of the malt separated from their former solution in the wort, by the joint action, in all probability, of the heat, and the bitter extract of the hops. For the ascertaining of this important question, no regular experiments, however, have been as yet instituted.

The boiling copper is in most breweries uncovered, but in some it is fitted with a steam-tight cover, from the centre of which passes a cylindrical pipe, that terminates by several recurved branches in the upper or mashing copper: the steam, therefore, produced by the boiling, instead of being wafted, is let into the cold water of the upper copper, and thus raises it very nearly to the temperature required for mashing, besides impregnating it very sensitively with the essential oil of the hops, in which the whole of the flavour resides, and which would otherwise be discharged into the air, and thus be lost.

§ 3. Cooling.

When the liquor is sufficiently boiled, it is discharged into a number of shallow tubs called coolers, where it remains exposed to a free draught of air, till it has deposited the hopfeeds and coagulated flakes with which it was charged, and is become sufficiently cool to be submitted to the next process, which is that of fermentation. It is necessary that the process of cooling should be carried on as expeditiously as possible, particularly in hot weather; for unfermented wort, by exposure to a hot cloae air for a few hours, is very liable to contract a noxious firrle and talle, when it is laid technically to be fixed, in consequence of small spots of white mould forming on its surface. Liquor made from pale malt, and which is intended for immediate drinking, need not be cooled lower than 75° or 80°, and in consequence may be made all the year through, except perhaps during the very hottest season; but beer from brown malt, especially if intended for long keeping, requires to be cooled to 65° or 70°, and therefore cannot possibly be made except in cool weather; hence it is that the months of March and October have always been reckoned peculiarly favourable to the manufacture of the belt malt liquor.

§ 4. Tunning and barrelling.

From the coolers the liquor is transferred into the fermenting or working tun, which is a large cumbous wooden vessel capable of being closed at pleasure. As soon as the wort is let in, it is well mixed with yeast, in the proportion of about one gallon to four barrels, and in about five hours afterwards the fermentation commences. The signs of fermentation are muddines of the liquor, the formation of froth or yeast on the surface, and a copious dilugement of carboonic acid. In the first stage of fermentation, on taking some of the yeast in a bowl it soon falls down into a liquid; but when the fermentation is sufficiently established to allow of barrelling, the yeast has a certain degree of toughness, and will remain a long time without falling in. When the wort is let down hot into the working tun, the fermentation is conducted with the tun closed, and proceeds rapidly, so that in about 18 or 20 hours it is fit to be cleaned or put into the barrels; but when the wort is let down at 65° it requires 48 hours for the first fermentation, and is peculiarly liable to be affected by a considerable change of weather.

Although, in common practice, the coagulated ferment and gluten are deposited and left in the coors, yet, skilful brewers mix them again with the wort by agitation, and ferment the liquor in this state. Fermentation is considerably retarded by this practice; but, in return, the liquor is much clearer and more completely fermented, as is obvious from the remarkable diminution of specific gravity which it undergoes.

The last process is transferring the liquor from the working tun to the barrels, when the fermentation is completed. During a few days, a copious discharge of yeast takes place from the bung-hole, and the barrels must be carefully filled up every day with fresh liquor; this discharge gradually becomes less, and in about a week ceases; at which time the bung-hole is closed up and the liquor is fit for use, after standing from a fortnight to three months according to its strength, and the temperature at which it has been fermented.
BRE

BREWING, among Distillers, denotes the method of extracting the more soluble parts of vegetables with hot water, and thus procuring a solution or decoction fitted for vinous fermentation.

In which sense brewing is a necessary step towards distillation.

A fermentable solution, fit for yielding a spirit, or brandy, is obtainable from any vegetable, under proper management; but the more readily and perfectly the subject diffuses, the better it is distilled for fermentation, and the production of brandies. Thus sugar, honey, treacle, manna, and other infusificated vegetable juices, which totally unite with water, into a clear and uniform solution, are more immediate, more perfect, and better adapted subjects of fermentation than roots, fruits, or herbs, in substance, the grains, or even malt itself; all which diffuse but very imperfectly in hot water.

Yet malt, for its cheapness, is generally preferred in England, and brewed for this purpose, much after the common manner of brewing for beer; only the worst malt will serve for distillation; and the tincture, without the addition of hops, and the trouble of boiling, is here directly cooled and fermented.

The grain intended for brewing is previously malted, to prepare it for dissolving more easily and copiously in the water, so as to afford a richer tincture or solution, which, after due fermentation, will yield about one half more of proof spirit than the tincture of an equal weight of unmalted corn.

Brewing is also used, in an ill sense, for the counterfeiting and compounding especially of wines. Vintners and wine-coopers are suspeetful of brewing wines, or giving divers inferior sorts, to imitate some better kind. The necessity of accommodating their liquors to the palates of their guests, is another cause of brewing; inomuch that some have confessed they commonly draw out of two or three casks for every pint.

BREWING, the appearance of a collection of black and tempestuous clouds, arising gradually from a part of the horizon, being an indication of an approaching storm.

BREWINGTON, Fort, in Geography, lies in the township of Mexico, New-York, and at the west end of lake Oneida, about 24 miles S. W. from Fort Oswego.

BREWWOOD, or BREWED, a market-town of Staffordshire, England, consists of 581 houses, and 2803 inhabitants, the greater number of whom are engaged in the iron manufacturies. The bishop of the diocese had formerly a seat here, and a small Benedictine monastery was founded here in the time of Richard I. A large free grammar school is established in this town. Here are a market on Fridays, and one fair annually. Gough's edition of Camden's Britannia, vol. ii.

BREY, a small town of Germany, in the circle of Weilphalia, and bishopric of Liege, seated on the river Neck, 29 miles N. of Liege.—Allod, a town of Upper Gueckelheim, 6 miles W. of Venlo.

BREYDA Fjordor, a bay of Iceland, in the west quarter, and in the district called Dala-Systel.

BREYDEL, Charles, called Crisander, in Biography, a painter of landscapes, was born at Antwerp, in 1677, and remained under the instruction of old Rybach, the landscape painter, for three years, after which period he became, in consequence of his close application, competent to commence the practice of his art. Having been diverted from his purpose of visiting Fays, by the encouraging reception which he met with at Frankfurt and Nuremberg, he spent two years with his brother, Francis Breidt, at the court of Hesse-Cassel; and he afterwards went to Amster-
dam, where he copied several views of the Rhine, from the designs of Griffer, and thus improved his colouring, pencilling, and taste of design, so that the works of this artist may be regarded as his second and best school. At length he settled at Ghent, where his performances were much admired; but he was reduced, by extravagance in his drefs, furniture, and table, to the necessity of earning money expeditiously, and to multiply pictures much inferior in design and execution to others, which had been produced by his pencil. His health declined towards the close of his life; and his performances, during the intervals of health, which he enjoyed, amidst recurring paroxysms of the gout, wanted the spirit, delicate fulness, and firmness of touch of his better days. Whistl the ideas and style of Griffer were his models, his pictures, which were views of the Rhine, were well designed, neatly executed, and excellently coloured. But he changed this manner, in order to imitate Velvet Brueghel, whose works were universally admired, and selected for his subjects battles, fiefs, and encampments. He often copied the prints of Vandermonden; but afterwards composed very readily in this style, without borrowing from any other artist. His best pictures are full of spirit, his touch is firm and well adapted to his style, and his design is correct. Some of them appear too laboured, but others are full of harmony. He died in 1744.

BREYDEL, Francis, brother of the preceding, was born at Antwerp, in 1679; and is suppos'd to have been a disciple of old Rybach. At an early age he excelled in portraits, and was appointed painter to the court of Hesse-Cassel, where his works were held in high estimation. From Hesse-Cassel he removed to England, and continued here for several years, with his friend Vandermonden. Besides portraits, he painted conversations, feasts, allegories, and carnivals; and his conversations, as well as his other compositions, are finely executed, agreeably coloured, and well disposed. This artist died in 1759.

BREYER, in Geography, the name of an island on the coast of North America. N. lat. 44° 19'. W. long. 66° 25'.

BREYNIA, in Botany, (in memory of Jac. Breynius, and his son, Jac. Philipp Breynay, both celebrated botanists.) Fördel. 77. Schres. 1655. La Marek Illus. 860. Chis. polygama Chisii.

Gen. Char. 1. Complete flowers. Col. perianth one-leaved, top-shaped, minute, with six segments; segments, concave, blue, closely converging, depressed, flat at the end, so that it is pervious only by a small hole. Cor. none. Stam. filaments none; anthers five, linear, erect, falcated longitudinally to the style, approximating. Pét. germ, very small. Style cylindrical, as long as the calyx; stigma obtuse. Pet. cor. berry, dry, globose, three-celled, supported by the perianth, now increased to three times its former size, and spreading very wide. Sects. two in each cell, convex at the back, flat on the sides. 2. Stenophorae flowers. Col. one-leaved, with five segments; segments roundish, concave, nearly equal. Cor. none. N. I. berry, five glands, on short pedicel, alternate with the stamens. Stam. filaments five, very short; anthers roundish, as long as the calyx. 3. Ptiliflorae flowers. Col. and Cor. as in the stenophorae. Pét. germ globose; style none; stigma five, obtuse, reflexing petals. Pet. cor. five-celled. Sects. solitary, rather threecelled. Native of New Cal. and Panama, in the South Seas.


P 2
BREYLEIDE, in Geography, a town of Flanders, 8 m. of St. Malo.

BREYNEICH. See Braine.

BRIAN, a town, having a castle, of Poland, in the province of Letnegas, and 13 of Mecz.

BRIEUX, a town of France, in the department of the Maine et Loire, 70 m. of Saumur.

BRZOLIJS, or BRZOLIJE, a town of France, in the department of the Eure and Loir, and chief place of a canton in the district of Dreux; 4 leagues W. of Dreux. The place contains 816, and the canton 9351 inhabitants; the territory comprehends 46,4 square kilometres, and 22 communes.

BRUSIO, a small town of Lower Hungary, in the district of Tot. The inhabitants follow agriculture and husbandry.

BRISAC, St., a town of France, in the department of the Hautes Vosges, and in the district of St. Malo, ½ league W. of St. Malo.

BRACKLAND, about 2 miles long from N. N. E. to S. S. W., lies on the coast of France, in the English channel, See Brehat.

BRIANDON, a town of Asia Minor, in Syria, 120 miles N. E. of Damascus.

BRIANDON, or BRION, a town of Asia Minor, and chief place of a district, in the department of the Higher Alps, situated on the Durance, surrounded with rocks and mountains, and defended by forts and redoubts; 14 leagues N. E. of Gap. The place contains 297, and the canton 7187 inhabitants; the territory includes 2544 square kilometres and 8 communes; N. lat. 44° 36'; E. long. 6° 45'.

BRIANDONNE, the name, before the revolution, of a district of France, in the province of Dauphiné, about 12 leagues long and 6 wide, comprehending several valleys, which are situated among the Alps. The air is cold in winter, and warm in summer. The inhabitants are sober, active, industrious; they cultivate some wheat and fruit, and feed flocks of sheep, and gather honey from the trees, and make some wine. This district now forms a part of the department of the Lower Alps. Its inhabitants were formerly known to the Romans under the appellation of Brigantes.

BRIANIS. See Piantis.

BRIANZA, mountains of Italy, near the lake of Como, in the Milanese.

BRIAR, in Botany, a name given to many species of the rose.

BRIAS, in Geography, a water of Savannah river, in Georgia; the mouth of which is about 50 miles S. E. by N. from Augusta, and 55 north-westly from Savannah.

BRIERE, a town of France, in the department of the Loiret, and chief place of a canton, in the district of Gien, situated on the Loire, and 2 leagues S. E. of Gien. The place contains 1675, and the canton 7700 inhabitants; the territory includes 320 kilometres, and 14 communes. At this town commences the canal, which unites the Loire and Seine. N. lat. 47° 40'; E. long. 2° 45'.

BRIAREUS, in Fabulous History, a giant, the son of Acheron, Titan, or Cetus, and Terra. This was his celestial appellation; on earth he was called "Egeon." Jupiter derived singular favour from him, when Juno, Pallas, Neptune, and other gods, endeavoured to bind him in chains, and to de-throne him; though he afterwards conspired with his brethren, the giants, to dethrone Jupiter. Virgil describes him (Aen. x. 365.) on this occasion, as having 100 hands, 50 heads, and breathing out fire. According to the fable, Jupiter punished him by throwing him under-ground Etna, which, as often as he moves, belches out fire.

BRIAREUS, in Natural History, a species of Gorgone, found in the West Indian Seas. This kind is sub-truncate, round, black, rising from a broad dilated base; the skin white within; externally grey; flares large, bearded, with eight tentacles; each composed of small glairy needles of a purple colour irregularly, and compactly disposed in a longitudinal manner. Elder, Sander, &c.

BRIASCA, in Geography, a town of European Turkey, in Moldavia; 36 miles E. of Jaffa.

BRIATEXTE, a town of France, in the department of the Terr, and the district of Lavaur; 1½ league N. E. of Lavaur.

BRIATICO, a town of Napels, in the province of Calabria Ultra; 11 miles N. E. of Nicotera.

BRIACH, a river of Swabia, in the Black forest, which rises near the source of the Danube, and unites with the Rhine below the town of Dornfichingen.

BRIBE, a reward given to prevent the judgment, or corrupt the conduct. See Bribery.

The word is French, brique, which originally denotes a bit, fragment, or relic of meat taken off the table; on which forgiving, brique imports as much as pænis mendicatus, and still keeps up the idea of the matter whereof bribes ancienly consisted. Hence also the Spaniards use brihag and brihag for begging; and briccia, briconnieria, and briominfio, for beggary. Menag. Orig. France, p. 131. Skinner Etym. in voc. In Middle Age Writers, a bribe given to a judge, is called quota litis, and the receiver, campi particeps, or canib particeps; because the spoils of the field, i.e. the profits of the cause, were thus shared with the giver. Du-Cange. Gloss. Lat. tom. i.

BRIERY, in Common Law, is when a person, occupying a judicial place, takes any fee, gift, reward, or brocage, for doing his office, or by colour of his office, except of the king only. In a larger sense, bribery denotes the receiving or offering of any undue reward, to or by any person concerned in the administration of public justice, as an inducement for acting contrary to duty; and sometimes it signifies the taking or giving of a reward for a public office.

In the earl it is the custom never to petition any superior for justice, kings not excepted, without a present; a practice adapted to the genius of despotic countries. The Roman law, though it contained many severe injunctons against bribery, as well for selling a man's vote in the senate or other public assembly, as for the bartering of common justice, nevertheless tacitly encouraged this practice; because it allowed the magistrate to receive small presents, provided they did not in the whole amount exceed a hundred crowns in the year. Plato, in his ideal Republic (De Leg. i. 2.) more wisely orders those who take presents for doing their duty to be punished in the severest manner; and by the laws of Athens, the offerer as well as the receiver of a bribe were prosecuted. In England, this offence of taking bribes is punished, in inferior officers, with fine and imprisonment; and in those who offer a bribe, though not taken, the same. (3 Inst. 147.) But in judges, especially the superior ones, it has always been regarded as a very heinous offence; insomuch, that anent it was punished as high treason, and the chief justice Thorp was hanged for it in the reign of Edw. 111.; and at this day it is punishable with forfeiture of office, fine, and imprisonment. By statute

11 Hen.
11 Hen. IV. all judges and officers of the king, convicted
of bribery, shall forfeit treble the bribe, he punished at the
king's will, and be discharged from the king's service for
ever.

Officers of the customs taking any bribe, whereby the crown
may be defrauded, forfeit 100l., and are rendered incapable
of any office; and the person giving the bribe or offering any
bribe to officers of the customs, to induce them to connive
at the running of goods, shall forfeit 50l. See CUSTOMS.

Candidates that bribe electors, after the date or of the
writs, or after the vacancy, by giving or promising any
money or entertainment, are disallowed to serve for that place
in parliament; and he that takes as well as he that offers a
bribe, forfeits 500l. and is for ever disallowed from voting,
and holding any office in any corporation, unless, before conviction,
he discovers some other offender of the same kind,
whereby he is indemnified for his own offence. The oath
against bribery, in the election of members of parliament, is
as follows: “I do swear, I have not received, or had, by
myself, or any peron whatsoever, in trust for me, or for my
use and benefit, directly or indirectly, any sum or sums of
money, office, place, or employment, gift, or reward, or
any promise or security, for any money, office, employment,
or gift, in order to give any vote at this election.”

Upon this oath, archdeacon Paley (Principles of Moral and
Political Philosophy, vol. i. p. 208.) remarks, that the
several contrivances to evade this oath, such as the electors
accepting money under colour of borrowing, and giving a
promissory note, or other security for it, which is cancelled
after the election; receiving money from a stranger, or a
person in disgrace, or out of a drawer or purse, left open
for the purpose; or promises of money to be paid after the
election; or flippulating for a place, living, or other private
advantage of any kind; if they escape the legal penalties of
perjury, incur the moral guilt: for they are manifestly
within the mischief and design of the statute, which imposes
the oath; and within the terms of the oath itself; for the word “indirectly” is inserted on purpose to comprehend
such cases as these. See PARLIAMENT. Blackstone’s

BRIBEKOU, in Geography, a town of Africa, on the

BRIBIESCA. See BRIBIESCA.

BRICE, Sir, a town of France, in the department of
the Ille and Vilaine, and chief place of a canton, in the
district of Fougères; 24 leagues N.W. of Fougères. The
town contains 1192, and the canton 13,810 inhabitants;
the territory comprehends 150 kilometres, and 11
communes.—Allo, a town of France, in the department of
the Seine and Oise; 3 leagues N. of Paris.—Allo, a town of
France, in the department of the Yonne; 2 leagues S.E.
of Auxerre.—Allo, a town of France, in the department of
the Marne, and in the district of Reims; 1 league N.W.
of Reims.

BRICHERASCO, a town of Piedmont, in the district
of the Four Valleys; 2 3/4 miles S.S.W. of Pignolo.

BRICIANI, Knights of St. Bridget, a military order,
refembling that of Malta, established by St. Bridget, princi-
cipal of Sweden, in 1566, and approved of by pope Urban V.
who gave it the rule of St. Augustin. The arms of the
Briciani were a croos azure, like that of the knights of
Malta; under which was a tongue of fire, to express the
ardour of their zeal: their office was to fight against heres-
ics, bury the dead, assist widows and orphans, &c.

BRICK, a kind of factitious stone, composed of an argil-
aceous earth, tempered and formed in moulds, dried in the
sun, or burnt in kilns.

The use of bricks is of the highest antiquity. The earliest
buildings of Asia were of bricks, dried in the sun, and ce-
mented with bitumen. In this manner, we learn from the
historical books of the Old Testament, Nineveh was built by
Nimrod; and the famous walls of Babylon, reckoned by the
Greeks among the wonders of the world, were of the same
materials.

Unburnt bricks were used in Egypt: the making of
them was one of the oppressions to which the Israelites
were subjected during their servitude in that country. The
ancient edifices which stands now exist in Egypt are principally
of stone: however, Pococke describes a pyramid of unburnt
brick, called Kloube-el-Menfihieh (the bricks of Men-
fiheh), from a village near, called Menfiheh-Dalhoun.
It was doubtless built near the plain, on account of the bricks,
which seem to be made of the earth brought by the Nile,
being a black sandy earth, with some pebbles and thells in
it. It is mixed up with chopped straw, in order to bind the
clay together; as they now make unburnt bricks in Egypt,
and many other eastern parts, which they use very much in
their buildings. I found some of these bricks 13 1/4 inches
long, 6 1/2 inches broad, and 4 inches thick; and others
8 3/4 inches long, 7 inches broad, and 4 1/2 inches thick. I
observed on the north side the bricks were laid lengthways
from north to south, but not every where in that direction;
however, I particularly took notice that they were not laid
so as to bind one another. It is much crumbled and ruined,
but as it is I measured it, and found it to be 177 feet on the
north side, and 210 feet on the west side; it is 150 feet high.
By what I could judge, from the present slope of it, I con-
cluded that it was built with five degrees, like the pyramid
of Saccara, each being about 10 feet broad and 30 deep,
so that the ascent to it is easy, as the bricks are crumbled
away.”

The Greeks and Romans also used this material, both fum-
dried and burnt. Vitruvius infuses several celebrated
buildings, as the walls of Athens; the cells of the temples
of Jupiter and Hercules, which were of brick, the surrounding
columns and entablature being of stone; the ancient walls
of Arezzo in Italy; the house built by the Attic kings at
Tralles, which was always given for the labitation of those
who bore the office of pricks in that city. The paintings
which were brought from Lacedaemon to ornament the
Comitium, in the edifice of Varro and Marcia, were cut
out of walls of brick; the house of Crenus at Sardis; and
the celebrated tomb of Maunolus, in which, though the
ornaments were all of Proconnesian marble, the walls
were built of brick, and (says Vitruvius) remain to this time
exceedingly sublimitalient; and the incrustation appears as polished
and shining as glass.

The following directions for making unburnt bricks are
given by Vitruvius. They should not be made of sandy,
flinty, or gravelly loam, for such kind of earth renders them
heavy; and upon being wetted with rain after being laid in
the wall, they swell and dissolve, and the straw which is put
in them does not adhere on account of their roughness:
the earth of which they are formed should be light chalky
white or red. They should be made in spring or autumn,
and being the best time for drying; for the intense heat of
summer parches the outside before the inside is dry, which
afterwards drying in the building, causes them to shrink and
break. They are built when made two years before they are
used, as they cannot be sufficiently dry in less time. If
they are used when newly made and moist, the plaster
work which is laid on them remaining firm and stiff, and they
shrinking, and consequently not preferring the same height
with the incrustation, it is, by such contraction, lounfened
and separated.
BRICK.

The baked bricks are made of two parts of earth and one of cinders, well tempered together, in moulds larger than for the others. They leave them to dry in the sun for several days, then place them in a large furnace, ranged over the other, and some distance, which they fill with platter. They close the furnace and light the fire, which is kept up for three days and nights.

Bricks have several advantages over stone as building materials. From their porous structure they unite better with the cement used; they are lighter than stone, and not subject to attract damp and moisture.

The earth proper for the manufacture of bricks is a clayey loam, neither abounding too much in sand, which renders the ware heavy and brittle, nor with too large a proportion of argillaceous matter, which causes it to shrink and crack in drying.

The general process of the manufacture is as follows: The earth should be dug in the autumn; it should lie during the whole of the winter exposed to the frost, as the action of the air, in penetrating and dividing the particles of the earth, facilitates the subsequeunt operations of mixing and tempering. During this time the earth should be repeatedly turned and worked with the spade. In the spring the clay is broken in pieces, and thrown into shallow pits, where it is watered and suffered to remain soaking for several days. The next step is that of tempering the clay, which is generally performed by the treading of men or oxen. In the neighborhood of London, however, this operation is performed by means of a horse-mill. The tempering of the clay is the most laborious part of the process, and that on which the perfection of the manufacture essentially depends. It is to neglect in this part, that we are chiefly to attribute the bad quality of modern bricks, in comparison with the ancient. All the flumes should be removed, and the clay brought to a perfectly homogeneous state, using the least possible quantity of water.

The following experiment, made by M. Gallon, merits attention. He took a certain quantity of the earth, prepared for the making of bricks; he let it remain for seven hours, then caused it to be moulded and beaten during the space of thirty minutes: the next morning the same operation was repeated, and the earth was beaten for thirty minutes; in the afternoon it was again beaten for fifteen minutes. Thus this earth had only been worked for an hour and a quarter longer than usual, but at three different times. The material had acquired a greater density by this preparation; for a brick made with this earth weighed five pounds eleven ounces, while another brick, made in the same mould, of the earth that had not received this preparation, weighed only five pounds seven ounces. Then having dried these bricks in the air, during the space of thirteen days, and having burnt them along with others, without any particular precautions, they were examined when taken from the kiln, and it was found that the bricks made of the earth which had been the most worked still weighed four ounces more than the others, each having lost five ounces by the evaporation of the moisture. But their strength was very different; for on placing them with the centre on a sharp edge, and loading the two ends, the bricks formed with the well-tempered earth, were broken with a weight at each end of 65 pounds or 150 pounds in all, while the others were broken with 35 pounds at each end, or 70 pounds in the whole.

The earth, being sufficiently prepared in the pits, is brought to the trench of the moulder, who works the clay into the brick-moulds, and strikes off the superfluous earth. The bricks are delivered from the mould and ranged on the ground; and when they have acquired a sufficient hardness
to admit of handling, they are dressed with a knife, and flaked or built up in long dwarf walls, and thatched over, where they remain dry.

The burning of bricks, which is the next operation, is performed either in a kiln or a clamp. In the former, the bricks being let in, and the kiln covered with pieces of brick, they put in wood to dry them with a gentle fire; and this they continue till they are pretty dry, which is known by the smoke turning from a whitish to a thin black smoke. They then cafe to put in wood, and proceed to burn with brush, furze, thraw, brake, or fern faggots, having first closed up the mouth of the kiln with a thin fog (pieces of brick piled upon one another and closed with wet brick earth instead of mortar), then they continue to put in more faggots till the kiln and its arches look white, and the fire appears at the top, upon which they slacken the fire for an hour or two, and let all cool by degrees. Thus they continue alternately heating and facking, till the ware be thoroughly burnt, which is usually effected in 48 hours.

About London they burn in clamps, built of the bricks themselves, after the manner of arches in kilns, with a vacancy between each brick's breadth, for the fire to play through; but with this difference, that, instead of arching, they gather the ashes over by making the bricks project over one another. The place for the fuel is carried up straight on both sides till about three feet high; they then nearly fill it with wood, and over that lay a stratum of sea coal, and then overspan the arch; sea-coal is also threw between every row of bricks in the clamp; lastly, they kindle the wood which communicates with the coals; and when all is burnt out, they conclude that the bricks are sufficiently burnt.

The proper burning of bricks is a matter of considerable difficulty, and requires an experienced workman; as it is necessary to maintain an equal heat throughout the whole mass, neither too little, which would leave the bricks weak and crumbly, nor too great, which would cause them to run together into a vitrified flag. This operation is much better performed in kilns than in clamps, as the fire can be kept up and regulated at discretion; while in clamps, as the whole of the fuel must be put in at once, the manufacturer is always tempted to use too little, and the outside bricks are necessarily under-burnt. These are called fame bricks, and are sold at an inferior price.

The legislature has often interfered to regulate the manufacture of bricks. By flat. 12 Geo. 1. cap. 35, earth or clay, designed for making bricks for sale, shall be dug and turned at least once between the 1st of November and the 1st of February, and not be made into bricks till after the 1st of March, and no bricks be made for sale but between the 1st of March and 20th of September. But by flat. 10 Geo. III. cap. 49, earth may be dug for making bricks at any time in the year, provided such earth be turned once before it be made into bricks, and by the former statute, no Spanish is to be mixed with the earth or breeze used in the burning of bricks; and all bricks are to be burnt either in kilns, or different clamps, each fort by itself.

By flat. 3 Geo. II. cap. 22, there may be mixed with the brick-earth any quantity of sea-coal ashes, sifted or fcreened through a sieve or screen half an inch wide, and not exceeding 20 loads, to the making of 100,000 bricks, each load not exceeding 36 buhlets. And breeze may be mixed with coal in the burning of bricks in clamps for sale, &c. Stock-bricks and place-bricks may be burnt in one and the same clamp, so that the flock bricks be let in one distinct parcel, and not mixed and surrounded with place-bricks.

For the more effectually securing the observation of these laws, it was enacted, by 12 Geo. I. cap. 55, for the better discovery of offenders, that the master and wardens of the company of tilers and bricklayers should have power to search brick-kilns, &c.; but they having permitted, and even encouraged divers persons to make bricks contrary to the directions in the said act, by 2 Geo. II. cap. 15, they are divelld of that power, and any two, three, or more persons, appointed by the justices of peace, are empowered, within 15 miles of London, to go in the day-time into any grounds, sheds, or places where any clay or earth shall be dugged or digging for bricks or pan-tiles, or any bricks or pan-tiles shall be making or made for sale, and there to view, search, and inspect the same, &c. Offenders to forfeit 66 shillings for every thousand of inflammable bricks, and 10 shillings for every thousand of such tiles; one moiety to the use of the professor, the other to the poor of the parish where the offence shall be committed.

By 17 Geo. III. cap. 42, all bricks made for sale shall, when burnt, be not less than 3½ inches long, 2½ thick, and 4 wide.

By 43 Geo. III. c. 69, (consolidating the excise duties) passed July 4, 1803, every thousand of bricks made in Great Britain, not exceeding 10 inches long, 3 inches thick, and 5 inches wide, is liable to a duty of 5s. and exceeding the fore-mentioned dimensions to 10s.; and every thousand of bricks made in Great Britain, and smoothen or polished on one or more sides, not exceeding the superficial dimensions of 10 inches long by 5 inches wide, is subject to a duty of 12s. and if such bricks exceed these dimensions, to the duty on paving tiles. The said duties are to be paid by the makers. An additional duty of 1d. per thousand was imposed on bricks and tiles in the ways and means for the year 1805.

The different kinds of bricks made in this country are principally place bricks, grey and red flocks, marle facing bricks, and cutting bricks. The place-bricks and flocks are used in common walling. The marles are made in the neighbourhood of London, and used in the outside of building; these are very beautiful bricks, of a fine yellow colour, hard, and well burnt, and in every respect superior to the flocks. The finest kind of marble and red bricks are called cutting bricks, they are used in the arches over windows and doors, being rubbed to a centre and gauged to a height. There is also a fine kind of white bricks made near Ipswich, which are used for facing, and sometimes brought to London for that purpose. The Windsor bricks, or fire-bricks, which are made at Hedgerley, a village near Windsor, are red bricks, containing a very large proportion of sand; these are used for coating furnaces, and lining the ovens of glasshouses, where they stand the utmost fury of the fire. Dutch clinkers are also imported, long narrow bricks, of a brimstone colour, very hard and well burnt; they are frequently warped, and appear almost vitrified by the heat. The use of them is for paving yards and flables.

**BRICK.**

**BRICK-walls.** See WALL.

**BRICKS, Oil of.** See OIL OF OLIVES.

**BRICK-dust.** It is a custom with some persons to reduce this substance to a very fine powder, and give it, instead of chalk, in the heart-burn. Many of the lozenges, so much famed for the cure of this disorder, and sold under the pome- rous name of coral lozenges, are only made of a mixture of this uncoothe medicine, and sugar, made into the confluence of pattle, with gum tragacanth reduced to a mucilage with rose-water.

**BRICK** is also used in speaking of divers other matters made in the form of bricks.

In which sense, we lay a penny-brick, or brick-bread. Some also mention brick-tin, a sort of tin in that shape brought
BRICKLAYERS, two brothers, who appear to have made their travels serve to the improvement of natural history. The elder published "A natural and political History of Portugal," Svo. Lon-

BRICON, a town of France, in the department of the Upper Marne, and district of Chaumont; 7 miles W. of Chaumont.

BRICZANTI, a town of European Turkey, in the province of Moldavia; 30 miles S. E. of Cokzin.

BRIDE, a woman just married, or a wife in the first days of her matrimonial state. See Marriage.

Among the Greeks, the bride was usually conveyed in a chariot from her father's house to that of her husband in the evening, as the most convenient time for concealing her blushing; she was placed in the middle, her husband sat on one side, and his intimate friend on the other; torches were carried before her, and in the procession they sometimes accompanied by fingers and dancers. When they arrived at the end of their journey, the axe-tree of the carriage was broken, signifying, by this action, that the bride was never to return to her father's house. The day on which the bride left her father's house was celebrated as a festival, distinct from the nuptial solemnity; which was kept at the house of the bridegroom, and began in the evening, at the time of the bride's arrival. A banquet was prepared for her reception, from respect due to the gods of marriage, who had been previously invoked, and that the marriage might be made public, as it was usually attended by a concourse of friends. Before the bride was conducted to the marriage-bed, which was richly adorned, according to the quality of the person, she bathed her feet in water, which the Athenians fetched from the fountain "Callirrhoe," afterwards called Ennomos, from nine cisterns, supplied by it with water; which water was brought by a boy nearly allied to one of the married pair. The bride was then lighted to bed with several torches, round one of which the married person's mother tied her hairlace, taken from her head for this use, to which custom Seneca alludes, Theb. v. 525. Whilt the married couple were shut together in a chamber, the laws of Athens obliged them to eat a quince, thus intimating that their first conversation ought to be mutually agreeable; and then the husband proceeded to looke his bride's girdle, called ζωρ; during which time the young men and maidens stood without the door dancing and singing songs, called τιτανίαι, epithalamia. In the morning they returned again, and sang other epithalamia. See APOLLO and ASCALAPIOS.

Among the Romans, the maid espoused remained a bride, ζωρ, till she entered the husband's house; from which time she commenced a wife, uxor.

The bridegroom was attended by a bridesman, paranymphus; the bride by a pronaia, or bridesmaid, whose business it was to instruct her young maids-in-the-duties of the genial bed, and to prepare every thing for a prosperous copulation.

The ancient ceremonies prattled in respect of a bride were numerous; most of them emblematical, or significant of some part of her duty; as, dressing her hair after a peculiar manner, and parting it with a spear; putting on her a crown; girding her with a girdle, which the bridegroom was to loosen; putting a yoke on her neck; dressing her in yellow locks;
feet; and veiling her with the flammum. She was to seem to be ravished or torn by force from her mother, in memory of the rape of the Sabines under Romulus; she was to be carried home in the night-time to the bridegroom's house, accompanied by three boys, called patrinus and matrinus, one of whom carried a torch, and the other two, called para- nympha, led the bride, a spindle and a distaff being carried with her: the brought three pieces of money, called offer, in her hand to the bridegroom, whose doors, on this occasion, were adorned with flowers and branches of trees: being here interrogated who she was, she was to answer, Cina, in memory of Cina Cucilia, wife of Tarquin the Elder, who was an excellent honifius, or spintrix; for the like reason, before her entrance, she lined the door-polls with wool and smeared them with grease.

Fire and water being set on the threshold, she touched both; but fleeing back from the door, refused to enter, till at length she passed the threshold, being careful to step over, without touching it: here the keys were given her; a nuptial supper was prepared for her, and minstrels to divert her; she was lected on the figure of a Priscus, and here the patrinus and matrinus invested her to the presence, who brought her into the nuptial chamber, and put her into the genital bed. This office was to be performed by matrons who had only been once married, to denote that the marriage was to be for perpetuity. When the bridegroom was brought to her, epithalamia were sung by the women, who were divided for that purpose into two bands, one wherever sung in the evening, the other next morning; and, for the like purpose, nuts were also thrown down for the boys to scramble for. Potter Arch. lib. iv. cap. 11. tom. ii. Vol. 10. Hist. Quaest. Rom. 30. Serv. ad Aen. lib. iv. ver. 430. Kenn. Rom. Ant. p. 8. lib. i. c. 6. Fabr. Bibl. Ant. cap. 10. § 3.

Bride, in Geography, the name of a river in Ireland, which rives in the Nangle mountains, county of Cork, and having passed near the towns of Rathcomack and Tallow, from the latter of which it is navigable, joins the Blackwater about 8 miles above Yonghall.

Bride, in Etymology, a French name of the fifth called by Linnaeus Chaetonotus effusus, which see. Spars effusus of Linnaeus also bears this name among the French.

Bride's bay, St. in Geography, a bay of St. George's channel, on the west coast of the county of Pembroke, in South Wales, having good anchorage in 7 to 10 fathoms; but as the wetherly winds cause a great sea, in the mouth of the bay, the island of Ramsey affords shelter. This island is its northern limit, and Scamourne is its southern point; and on the north of the bay is the city of St. David's. N. lat. 51° 48'. W. long. 5° 27'. In spring tides it has high water at 3 o'clock.

BRIDEGROOM, the spouse or mate of a bride.

Among the Spartans, the bridegroom, as we are informed by Plutarch, in his "Lycurgus," (Op. i. p. 43. ed. Xylander.) committed a kind of rape on his bride. After the preliminaries of marriage were settled, the woman, that conducted the bridal, shaved off the bride's hair close to her skin, defiled her in man's clothes, and left her upon a matress; whilst she in this state, the bridegroom stole privately into the room, united her virgin griddle, and took her into his embraces; and after a short interval, he returned to his companion, with whom he continued to spend his life, remaining with them by night as well as by day, unless he bore a short visit to his bride; which he had no opportunity of doing without great circumstancis, and fear of being discovered.

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Among the Romans, the bridegroom was decked to receive his bride; his hair was combed and cut in a peculiar form; he had a coronet or chaplet on his head, and was dressed in a white garment. Pittic. Lex. Ant. tom. i.

By the ancient canons, the bridegroom was to forbear the enjoyment of his bride the first night, in honour of the nuptial benediction given by the priest on that day. John. Eccles. Law. tom. 740. § 88.

In Scotland, and perhaps also some parts of England, a custom called marchet, obtained, by which the lord of the manor was entitled to the first night's habitation with his tenants' brides. See Borough English, and Marchet.

BRIDEMIL, in the Persian Tables, the constellations Lyres, or the Wolf.

BRIDEWELL, in our Cysis, denotes a work-house, partly for the correction of vagrants and disorderly persons, and partly for the employment of the parfit poor.

They are supplied during their abode here with clothing and diet; and those who are committed for correction are not only made to work, but, according to their crimes, they receive occasionally a number of drapes as the governor of the house of correction ordains.

Bridewell, near Fleet-Street, is a foundation of a mixt and singular nature, partaking of the hospital, the prison, and work-house; it was founded in 1553, by Edward VI. who gave the place, where King John had formerly kept his court, and which had been repaired by Henry VIII. to the city of London, with 700 marks of land, bedding, and other furniture. Several youths are sent to this hospital as apprentices to manufacturers, who reside there; they are clothed in blue doublets and breeches, with white hats. Having faithfully served their time of seven years, they have their freedom, and a donation of ten pounds each, for carrying on their respective trades.

BRIDGE, in Architecture, from the Saxon byne, is a structure of carpentry, masonry, or iron-work, built over a river, canal, or valley, for the convenience of passing from one side to the other, and may be considered as a road supported in the air by arches or lintels, and these again supported by proper piers or buttments.

Bridges generally form the continuation either of an highway or of a street; in the first case they are frequently built in a rude and cheap manner, and too often without proper attention to those principles which would ensure permanence and solidity to the structure; but when they take their lead or direction from a principal street in a capital city, their construction is attended with great expense, and a degree of elegance and durability is required in their formation, which calls for the utmost judgment and skill in the architect. The magnitude of bridges also varies with their situation. When they are erected in places not much frequented, they are often, without any impromptu, made about eight or ten yards wide, but the breadth of a bridge for a great city should at least be such as to allow a safe and easy passage for three carriages, and two horsemen abreast, and for three or four foot passengers in the same manner on each footway.

A lately bridge over a large and rapid river, while it is one of the most difficult, is justly esteemed one of the most noble and striking specims of human art. To behold grand arches compoited of an immense quantity of small material, so disposed and united together as to form one compacted body, which, beleth the dream, affords above an ample communication with the distant shores, and allows below an uninterrupted passage to navigation, is enough to awaken the admiration of every spectator. The art of bridge building, accordingly, has received considerable attention from writers on architecture, the earl of whom is Alberti, who has...


B R I D G E.

TheRomansdiscovered, in this respect, a more solid manner of thinking; they were, it is true, much attached to pomp, but they never neglected works of public utility: they never risked their lives unnecessarily in crossing a torrent, as the Athenians must have done previous to the arrival of the emperor Adrian; for it was Adrian who undertook to form, by a bridge, a safe communication across the Cephissus, between the territories of Attica and Elenis, on the most frequented road of Greece. While, therefore, we ascribe to the Greeks the use of arches and vaults, properly constructed for covering various openings in their buildings, we must look to the Romans for the application of arches to bridges, and for the chief improvements in those useful structures.

The construction of the Roman bridges is best described by Bergier: they possessed all the requisites which are met with in a modern bridge; they consisted of pile, or piers, foundations, or arches, flablers, or butments, puentes, and anges, the roads over in the middle for carriages, on each side of which were decursores, or banquettes, somewhat higher than the rest of the road for foot passengers, and separated from it by a pons, or railing, and sometimes even covered over to shelter passengers from the rain, as in the Ponts d'Abis. Among the Romans, the building and repairing of bridges was first committed to the priests, thence named pontifices, then to the censors and curators of the roads, and finally, the emperors took the care of the bridges into their own hands.

The ancient bridges of Rome were eight in number. The bridge of Fabricius, which joins the island of the Tyber to the city; it is now called Ponte Quattro Capi, from the four heads of Janus, which are placed upon it. The bridge of Cepius, now called of Sain Bartolomé, which descends from the other side of the island piers to the Tiber-Tevere. The fifth bridge built at Rome, which was of wood, and thence called Pont Sublicius, was afterwards rebuilt of stone by Emilius Lepidus;
The celebrated Roman bridge Pont, St. Esprit, near Lyons, has long been reckoned one of the most bold and beautiful of the ancient bridges in France. Its whole length is upwards of 800 yards; it is very crooked, bending in many places, and making several unequal angles, especially in those parts where the Rhone has the strongest current. The arches are from 15 to 20 fathoms wide, and have their feet, or the bottoms of the piers, protected by two pendentives which project from them; the lower part of the piers consists of several courses of footings jutting out like steps. Between the great arches there are smaller arches like windows that come down nearly to the top of the pendentives, about the middle of the pier. This mode of construction was adopted with a view of breaking gradually the mighty force of the Rhone, the several courses of steps jutting out from the piers were intended to oppose and break the stream by portions, and prevent it from coming with its whole force at once upon the fabric; and when the flood should rise too high to cover the steps and pendentives, then the small window-like arches would assist to convey the water through, which might otherwise endanger the great arches.

The bridge of Brioude is of great antiquity, and very remarkable, as the largest stone arch with which we are acquainted. This bridge has only one arch, under which passes the whole stream of the river Allier. The arch is formed of two ranks of squared stones; all the rest of the fabric is of rubble work. The two extremities of the arch are founded upon the rock, which occasions the springing on one side to be higher than on the other; its span is 181 feet, and its greatest height from the water to the summit is 68 feet 8 inches, and the width of the bridge between the parapets is 13 feet.

In the middle ages bridge building was reckoned among the acts of religion; and a regular order of hospitallers was founded by St. Benezet, towards the close of the 12th century, under the denomination of pontifices or bridge-builders, whose office was to assist travellers by making bridges, letting ferries, and receiving strangers in hospitals or hospices built on the banks of rivers. We read of a hospital of this kind at Avignon, where the hospitallers dwelt under the direction of their first superior St. Benezet. The Jesuit Raynal has a treatise expressly on St. John the bridge-builder.

The bridge of Avignon was begun in the year 1176, and finished in 1188; it consists of 18 arches, and was about 1000 yards in length. Several of its arches have been destroyed by the rapidity of the current together with the force of the ice.

Over the several canals at Venice are laid nearly 500 bridges of different sizes; the greater number of them are of stone. The chief of these, called the Rialto, is celebrated as a master-piece of art: it consists of one flat and bold arch, nearly 100 feet span, and only 23 feet high above the water, and was built in 1588 to 1591, after a design of Michael Angelo. The breadth of the bridge, which is 45 feet, is divided by two rows of shops into three narrow streets, that in the middle being the widest; and there is in the centre an open archway, by which the three streets communicate with one another. At each end of the Rialto is an alcove of 56 steps; the view from its summit is very lively and magnificent. The whole exterior of the shops and the bridge is of marble. The foundation extends 90 feet, and rests upon 12,000 elm piles. This structure cost the republic 250,000 ducaus.

The aqueduct bridge of Acantara, near the city of Lisbon, is one of the most magnificent works of the kind ever executed. It was begun in the reign of John V. king of Portugal.
BRIDGE.

Portuguese, in the year 1711, and finished the 6th of August 1714. The architect, under whose inspection it was begun and finished, was the brigadier M. António de Abreu. The stream which passes through this duct, for the use of the inhabitants of the city of Lisbon and its suburbs, has an average depth of 9 feet, a width of 21 feet, and a fall of 1 foot from Lisbon to the spring, near the Ribeira de Caracol, equal to 32 feet. The stream is a wide, shallow, slow, and beautiful free-fall. The building is continued the same height, width and depth of the aqueduct from Lisbon to the spring, near the Ribeira de Caracol, so that if by accident any part becomes out of repair, the workmen have easy access to it. The subterranean passages are lighted and ventilated by frequent openings made from the surface of the earth into the aqueduct; and over each of these openings there are square towers erected, which have windows lattice, with iron bars to admit the light and air, and at the same time to prevent mischief from throwing anything into the building to injure it.

This pile is lighted and ventilated by 79 windows and 16 turrets; the former are three feet seven inches long by 13 inches wide, railed with iron and lattice with bars; the latter are 23 feet six inches above the roof, and are 16 feet square; beneath every second turret is an arched door-way into the aqueduct on each side of the building, wherein the water flows, and between that building and a parapet wall is a foot path leading from Lisbon towards the very pleasant village of Bemfica, about four miles from Lisbon, where several gentlemen have their quinta or country-estates; one in particular, the quinta of M. António de Abreu, is a perfect palace enchanté, with its lovely fountains, beautiful gardens, fine ponds, and fountains, and sportive fountains, are frequently honoured with visits by the queen and royal family.

The water channel under the grand arch is about 24 feet wide and seven feet deep, but, except in very rainy seasons, no water pales through this channel; the small running stream constantly passing through the valley of Alcancara is conveyed by a very narrow channel under the pavement through the grand arch, and then continues its course through the valley, in a stream between two and three feet wide, till it empties itself into the Tagus at Alcancara bridge, about the distance of two miles from the aqueduct. The expense attending the execution of this magnificent work, and keeping the same in repair, has been immense, yet the small tax of a single rei on every pound of meat, raises a fund sufficient for the purpose. There is a chapel seen through the eleventh arch, dedicated to Nossa Senhora dos Terremotos, our Lady of the Earthquakes; in commemoration of that dreadful event the earthquake in 1755, when the greatest part of the city of Lisbon, with most of her stately buildings, and magnificent temples, were levelled with the ground.

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The height of the grand arch is 227 feet, and the total length of the piers and arches 2494 feet.

Several of the bridges in France are remarkable for their size and boldness of construction, among which may be mentioned the bridge of Neufly, built by M. Perronet, over the Seine, on the alignment of the great avenue of the Champs Elysées, in front of the palace of the Tuileries. This bridge, which is level at top, consists of five equal arches of 120 feet French (128 feet English) in span, and 30 feet French (32 feet English) rise. The arches are oval, composed of 11 arcs of circles of different diameters; thus the upper portion of the arch was formed with a circle of 160 feet radius, which, by its settlement during the building, and after the filling of the centres, was flattened, till it became an arc of a circle of 250 feet radius, differing so little from a straight line, that, as Perronet observes, the rife of the curve, in a length of 35 feet, amounted only to 6 inches 9 lines. The piers are 24 feet wide, and the breadth of the bridge 48 feet. It was begun in the year 1768, and terminated in 1780.

The bridge on the Seine, at Montreuil, consists of three arches, the middle one having an opening of 120 feet French (128 feet English), and the two outside 108 feet French (116 feet English); the piers being 25 feet 6 inches wide, and the abutments 29 feet. This structure was begun by M. Hupcau in 1757, and completed by Perronet.

The bridge of Pont-Sainte-Maixenne, on the river Oise, on the great road from Paris into Flanders, is also a work of Perronet's. This bridge, which is 41 feet wide, has three arches of 27 feet opening each, being a segment of a circle described with a radius of 118 feet. Each pier is simply composed of four cylindrical pillars 9 feet diameter, leaving, therefore, three spaces or intercolumniations between them, which are arched over, the two external ones closed with a thin walling, and the middle one left open.

The bridge over the Loire, at Orleans, is composed of nine arches, which spring at 12 inches above low water; the middle arch is 160 feet in span, with a rise of 30 feet; the two arches at the extremities being 98 feet wide and 26 feet high, and the others in proportion; the four middle piers 19 feet, the four others 18 feet, and the abutments 23 feet 6 inches thick, making the whole length 1100 feet; the arches are oval, described from three centres. This bridge was built by M. Hupcau, begun in 1750, and finished in 1760. We
BRIDGE.

We have many bridges of considerable note in our own country. The triangular bridge at Croyland in Lincolnshire, which was erected about the year 865, is said to be the most ancient Gothic structure remaining entire in the kingdom. There are two circumstances in the construction of this bridge, which render it an object of great curiosity. First, it is formed by three semi-arches, whose bases stand in the circumference of a circle, at equal distances from each other. This unite at the top, and the triangular nature of the structure has led some to imagine that it was intended as an emblem of the Trinity. Secondly, the arches on each of the semi-arches is by feet paved with small stones, edge-ways, and is so deep, that none but foot-passengers can go over the bridge; horsemen and carriages frequently pass under it, as the river in that place is shallow. For what purpose this bridge was really designed, it is difficult, if not impossible, to determine. Utility, it is obvious, was one of the chief motives to its erection.

To holders of design and ingenuity of construction it has more powerful claims; and these qualities it must be allowed to possess in as great a degree as any bridge in Europe. Although this bridge has been erected so many centuries, it exhibits no marks of age. Twelve monuments there were no fixtures to be perceived in either of the arches, and all that was milled were a mound and sypsetre, which have been taken from the hands of a Rake of King Ethelbert by the ruthless hand of time.

London Bridge is in the old Gothic style, and had twenty small lack or arches, but there are now only 16 open, two having lately been thrown into one in the centre. It is 540 feet long, 44 high, and 44 clear width between the piers. The piers are from 15 to 15 feet thick, with flerings projecting at each side and end, so that the greatest water-way, where the tide is above the flerings, is 245 feet, scarcely half the breadth of the river; and below the flerings the water-way is reduced to 204 feet, causing a dangerous fall at low water. London Bridge was first built with timber in the reign of Ethelred, between the years 993 and 1016; it was repaired, or rather rebuilt of timber in 1463, and the present stone bridge was begun under King Henry II. in 1176, and finished under King John in the year 1207. It is probable there were no houses on the bridge for upwards of 200 years, since we read of a tilt and tournament held on it in 1595. Houses were erected upon it afterwards, and being found a great inconvenience and nuisance, they were removed in 1753, and the avenues to the bridge enlarged, and the whole made more commodious: the two middle arches were then thrown into one, by removing the pier from between them. The expense of the repairs amounted to above 80,000l.

There were other bridges in England built in the manner of London bridge; as the bridge at Rochester, which is 570 feet long, and has 11 arches; also the late bridge at Newcastle upon Tyne, which was broken down by a great flood in the year 1771, for want of a sufficient space for water-way through the arches. The longest bridge in England is that over the Trent at Burton, built by Bernard abbot of Burton, in the 13th century. It is all of iron and brick, and is strong and lofty, 1545 feet in length, and consisting of 34 arches.

The bridge at Blenheim consists of three arches, the chief of which spans 101 feet 6 inches.

Near Old Aberdeen there is a bridge over the river Don, very much celebrated. It is in the Gothic style. There is also a remarkable bridge called Sarah or Snad bridge, built over the Liffey above Dublin, in the year 1792, by Mr. Alexander Stevens, a mason from Edinburgh; it consists of a single elliptical arch 185 feet span, and only rising 22 feet; it is therefore six feet wider than the Rialto at Venice, and one foot less in height.

But the most extraordinary bridge in Great Britain is, doubtless, that over the river Taff, near Llanfair, in Glamorganshire, called in Welsh Pont y 15 Prydydd. This is the work of William Edwards, an uneducated mason of the country, who was only indebted for his skill in his own industry and the power of his genius. He had engaged, in 1735, to build a new bridge at this place, which he executed in a style superior to any thing of the kind in any part of Wales, for neatness of workmanship, and the elegance of design, as well as the improvement of the light in its construction.

The four foundations were excellently well dressed and closely jointed. It was admired by all who saw it. But this river runs through a very deep vale that is more than usual woody and crowded about with mountains. It is also to be considered, that many other rivers of no mean capacity, as the Crue, the Bargood Taff, and the Conno, besides almost numberless brooks that run through long, deep, and well-wooded vales or glens, fall into the Taff in its progress. The torrents into these vales from the mountains being in general very steep, the water in long and heavy rains, collects into these rivers with great rapidity and force, raising floods, that in their descriptions would appear absolutely incredible to the inhabitants of open and flat countries, where the rivers are neither so precipitate in their courses, nor have such hills on each side to swell them with their torrents. Such a flood unfortunately occurred after the completion of this undertaking, which tore up the largest trees by the roots, and carried them down the river to the bridge, where the arches were not sufficiently wide to admit of their passage. Here, therefore, they were detained. Brothwood, weeds, hay, straw, and whatever lay in the way of the flood, came down, and collected about the branches of the trees, that stuck fast in the arches and choked the free current of the water. In consequence of this obstruction to the flood, a thick and strong dam, as it were, was thus formed. The aggregate of so many collected streams being unable to get away, fell here to a prodigious height, and, with the force of its prelude, carried the bridge entirely away before it.

William Edwards had given security for the safety of the bridge during the space of seven years; of course he was obliged to erect another, and he proceeded on his duty with all possible speed. The bridge had only stood about two years and a half. The second bridge was of one arch, for the purpose of admitting freely under it whatever impediments the floods might bring down. The span or chord of this arch was 140 feet, its altitude 35 feet, the segment of a circle whose diameter was 170 feet. The arch was finished, but the spandrels not yet erected, when such was the pressure of the unavoidable ponderous work over the hauntches, that it swelling in the middle, and the key-flous were forced out. This was a severe blow to a man who had hitherto met with nothing but misfortune in an enterprise which was to establish or ruin him in his profession. William Edwards, however, policed a courage which did not easily forsake him; he engaged in it a third time, and by means of cylindrical holes through the hauntches, reduced their weight, that there was no longer any danger from it. The second bridge fell in 1751; the third, which has flood ever since, was completed in 1755. (Mr. Maltkin's Torn in South Wales.) The prefent arch is 140 feet in span, and 35 feet high, being a segment of a circle of 175 diameter. In each haunch there are three cylindrical openings running through from side to side; the diameter of the Lowell is nine feet, of the next six feet, and of the uppermost three feet. The width of the bridge is about eleven.
To strengthen it horizontally, it is made wider at the abutments, from which it contracts towards the centre by seven odd feet, so that the road-way is one foot nine inches wider at the extremities than at the middle.

The bridges of Westminster and Blackfriars, over the river Thames at London, are among the finest structures of the kind in Europe. The former is 1250 feet long, and 44 feet wide, having a commodious broad path on each side for passengers. It consists of thirteen large, and two small arches, fourteen intermediate piers and two abutments. The length of each abutment is 76 feet; the opening of each of the smaller arches is 25 feet; the span of the lintel of the larger arches at each end is 52 feet, of the next 56 feet, and so on increasing by four feet at a time to the central arch, the span of which is 76 feet. The two piers of the middle arch are 17 feet wide, and the others decrease equally on each side, by one foot at a time, every pier terminating with a falliant right angle against either stream. The arches are semi-circular, and spring from about the height of two feet above low water. The breadth of the river in this place is about 2250 feet, and the water-way through the bridge amounts to 870 feet. The bridge was begun in 1738, and opened for passengers in 1750, at a nea exitence of £198,300. It is constructed of the best materials, and in a neat and elegant taste; but the arches are too small in proportion to the quantity of masonry.

Blackfriars bridge, nearly opposite to the centre of the city of London, was begun in 1760, and completed in ten years and three quarters, at a near exitence of 152,840l. It is an exceedingly light and elegant structure; but, unfortunately, the materials do not seem to be of the best kind, as many of the stones in the piers are decayed. The bridge consists of nine large, handsome, and nearly elliptical arches; the central arch is 100 feet wide, and the four arches on each side, reckoning towards the shores, decrease gradually, being 98, 93, 83, and 70 feet respectively, leaving a water-way of 785 feet. The whole length from wharf to wharf is 995 feet, the breach of the carriage-way 28 feet, and that of the raised foot-way on each side seven feet. The upper surface of the bridge is a portion of a very large circle, which forms an elegant figure, and admits of convenient passage over it. On each pier there is a recess or balcony, with two Ionic columns and pilasters, which stand on a circular projection of the pier above high water mark. The bridge is rounded off at each extremity to the right and left, in the form of a quadrant of a circle, rendering the access commodious and agreeable. This edifice must be regarded as a fine specimen of Mr. Mylne's ingenuity and judgment, though the method of construction has never been made public.

Besides the bridges already mentioned, there are many other neat and elegant structures in different parts of Great Britain and Ireland. The bridge over the Tees at Wintron in Yorkshire, was designed by Sir Thomas Robinson, and built by John Johnson, a common mason at Waddington, in the year 1752. It consists of a single arch 188 feet 0 inches span: is built of rubble-stone: and cost only 500l. An elegant stone bridge has lately been built over the Tweed at Kelso, upon the plans and under the direction of Mr. John Rennie. This has five elliptical arches of 72 feet span each; is quite level at top. It has twoDONE and pilasters, which stand on a circular projection of the pier, with a simple block cornice. The cost of this bridge was about £13,000.00. exclusive of the roads at each end, which cost about £300.00. more, in all 16,000l.

The bridge over the Peafe, or rather Peeth, on the road from Dunbar to Berwick upon Tweed, is rather an uncommon structure. This bridge crosses a deep ravine called the Peaths. It consists of four semi-circular arches. That at the east side of the ravine is 54 feet span; the second 55 feet; the third 52 feet, and the further or western arch 48 feet. The height of the bridge, from the bottom of the ravine to the surface of the road, is 124 feet. The situation is beautiful, and has a most romantic appearance. It was designed and built by the late Mr. David Henderson, architect in Edinburgh, and does him considerable credit.

The aqueduct bridge, constructed by Mr. Rennie on the river Lune at Lancaster, is one of the most magnificent works of the kind which has been erected for the purposes of navigation. At the place where it is built, the water is deep and the bottom bad. It consists of 5 arches of 70 feet span each, and about 39 feet above the surface of the water. It has a handsome cornice, and every part of it is finished in the best manner. The foundations are laid at the depth of 20 feet under the surface of the water, and stand on a flooring of timber, supported by piles. The foundation alone cost 15,000l. The superstructure cost above twice that sum, although the stone was found within a mile and a half of the place where the aqueduct was built. Barges of 60 tons batter navigate the canal. The total height from the surface of the river to the surface of the canal is 51 feet.

It may be observed in this place, that the Romans always, without any exception that we are acquainted with, made their arches either of a semi-circle, or of a lesser segment of a circle. The vousoirs were generally included between two concentric curves, on which account these are called extradosed arches. The earlier Italian architects followed the example of the Romans in the forms of their arches, which, are either semi-circular, or of a smaller segment, called by them arco intiero, and arco fmeio, from which term our workmen have taken that of fme arco. Elliptical arches are very much used by the engineers of France, most of the bridges in that country being in this manner. The French delight in their arches into three kinds, Pumo plan-ctnere, Pumo farba, and Pumo farba: the first is a semi-circle, the second higher, and the third lower than a semi-circle, being formed by the greater or smaller axis of an ellipse; in practice, however, these are generally composed of several arcs of circles of different diameter, as in this case the joints are more easily traced. The arcs farbais are also called aupe de penier. The arc bombé is an arc farbaise, formed by a segment of a circle.

The ancients always laid their wrought stones without mortar between the joints, frequently using iron cramps to connect them more firmly together. Their large arches, and those which had to bear very great weights, were composed of several ranks of vousoirs extradosed, and breaking joint, as is seen in the great cloaca of Rome, and in several bridges and aqueducts. Modern architects, however, generally use only one rank of vousoirs, each of which is terminated at top by a horizontal joint, and laterally by a perpendicular joint, for the purpose of ranging better with the courses of the haunches and spandrels.

The decoration of bridges ought to be simple and large, their beauty consisting chiefly in the proportion of the voids and solids, the contour of the arches, and apparent strength and solidity, together with boldness of construction. However, many modern architects have carried simplicity to excess, particularly in Paris, where the arches of all the bridges are plain, and without any member of architecture. A happy introduction of rich work of various forms and figures breaks the monotony of the large masses, and enriches the edifice. This method was often employed by the ancients, and we never find that they neglected to ornament the arches of their bridges with archivoltos more or less rich.
Palladio, in all his designs of bridges, has never omitted this
simplest and best decoration of arches. Cornices and bal-
u-lustrades also are both useful and ornamental in these
structures.

Generally speaking, large arches are more expensive than
smaller. In a bridge lately designed over a river, wherein
the foundations were very difficult to construct, one design
with three arches of 116 feet each, was estimated at 13,174.
and another of five arches of the same kind was estimated at
12,941., which was contracted for and built for the
above sum.

Wooden bridges now demand our attention. The simplest
case of these edifices is that in which the road-way is laid
over beams placed horizontally, and supported at each end
by piers or pilings. This method, however, is deficient in
strength and width of opening; it is therefore necessary, in
all works of any magnitude, to apply the principles of
trussing, as used in roofs and of arches. Wooden bridges
of this kind are built of carpentry, in which, by a
proper disposition, beams are put, so as to stand in place of
folds bodies, as large as the spaces which the beams enclose;
and thus, two or three or more of these are set in abutment
with each other, like mighty arches.

Palladio has given several very elegant designs of wooden
bridges, which he thus describes. The bridge of the
Clisson. The Clisson is a river, which, falling from the
mountains that divide Italy from Germany, runs into the
Bretza a little above Belfano. And, because it is very
rapid, and great quantities of timber are sent down it by the
mountaineers, it was resolved to make a bridge there, with-
out fixing any pilings in the water, which were liable to be
held away by the violence of the current, and the shock of
the fomes and trees that continually came down. The
invention of this bridge, (says Palladio,) is, in my opinion,
very worthy of attention, as it may serve on all occasions
where these difficulties may occur, and because that bridges
thus made are strong, beautiful, and commodious; strong,
because all their parts mutually support each other; beauti-
ful, because the texture of the timbers is very agreeable;
and commodious, being even, and in the same line with the
remaining part of the street. The river where this bridge
was erected is 100 feet wide; this width is divided into fix
equal parts; and at the end of each part, except at the
banks, which are strengthened with pilasters of stone, the
beams are placed, that form the breadth of the bridge,
upon which, a little space being left at their ends, were
placed other beams lengthways, which form the fides. Over
these, directly upon the first, the colonelli (king-polls)
were disposed on each side; these king-polls are connected
to the beams which form the breadth of the bridge by
means of iron pins passing through the projecting ends of
the beams, and bolted and pinned through both. See fig. 1,
Plate XXXII. of Architecture.

Palladio proceeds to describe three other methods of con-
structing wooden bridges without pilings in the water, like
the bridge over the Clisson. The bridges after the first
method are to be made in this manner: the banks being
strengthened by pilasters as necessity shall require, one of
the beams forming the breadth of the bridge is to be placed
at some distance from it, then the first sirit is to be placed
with one end upon the pier, and the other end abutting
against the first queen-poll, which is to be connected with
the beams by irons. Then the second beam for the breadth
is to be placed at a distance equal to the space between the
first beam and the pier, which is to be supported in like
manner with a first and queen-poll, and thus proceeding
as far as is required, observing to have a king-poll in the
middle of the length in which the firsts meet both ways,
and with collar beams between all the polls which stiffen
and support the whole construction. Bridges after this
manner are to be wider at the extremities, and contract
wards the middle. See fig. 2, Plate XXXII. of Architecture.

The invention of the following bridge has the upper part
which supports the weight in the form of a polygon, in-
scribed in a flat segment of a circle; the beams forming
the breadth of the road-way are upheld by king-polls and irons,
and the whole stiffened and supported by braces crossing
another between the king-polls. Straits at each end, reach-
ing from the piers to the first beams, are also added to shorten
the bearing, and increase the strength of the fabric. See
fig. 1. Plate XXXIII. of Architecture.

The third design may be made with a greater or smaller
arch than is here represented. The height of the bridge,
in which are placed the braces between the king-polls, or re-
ther radius, is to be an eleventh part of the span. (See fig. 2,
Plate XXXIII., of Architecture.

Mr. Coke, in the first volume of his Travels, has slightly
described a very singular bridge at Wittingen, in Swiefer-
land, the construction of which is quite simple. The span is 200
feet, and it rises only 7. The sketch (fig. 3, Pl. XXXIII.)
will make it sufficiently intelligible. ABC is one of two
great arches approaching to a Catenary shape, built up of
7 courses of solid logs of oak, in lengths of 12 or 14 feet,
and 16 inches or more in thickness. These are all picked of
a natural shape, fitted to the intended curve; so that the
wood is nowhere cut across the grain to trim it into shape.
These logs are laid above each other, so that their abutting
joints are alternate, like those of a brick wall; or, in the
language of the workmen, they break joint. It is indeed a
wooden wall, simply built up by laying the pieces upon each
other, taking care to make the abutting joints as close as
possible. They are not fastened together by pins or bolts,
but held together by iron irons, which surround them at
the distance of five feet from each other, where they are
fastened by bolts and keys. These two arches being erected,
and well built against the rock on each side, were freed
from their supports, and allowed to settle. They are so placed
that the intended road abc intersects them about the middle
of their height. The roadway is supported by crosstjoints,
which rest on a long horizontal timber-beam; and this is
connected with the arches on each side by uprights bolted
into them. The whole is covered with a roof, which pro-
jects over the arches on each side, to defend them from the
weather. Three of the spaces between these uprights have
fruits, or braces, which give the upper work a sort of truf-
ing in that part. This bridge is of a height much more
than adequate to support any load that can be laid upon it;
though it is manifest, by the attempt to truss the ends, that
it was the contrivance of a person ignorant of principle. It
was the work of one Ulrich Grubenham, of Tuffen, in the
canton of Appenzel, a carpenter without education, but
celebrated for several works of the same kind.

At Schaffhaussen, in Swieferland, where the Rhine flows
with great rapidity, several stone bridges had been destroyed,
when, in 1754, Grubenham offered to throw a wooden
bridge of a single arch across the river, which is nearly 520
feet wide. The magistrates, however, required that it should
confist of two arches, and that he should, for that purpose,
employ the middle pier of the bill stone bridges, which would
divide the new one into two unequal arches of 172 and 193
feet splan. The carpenter did so; but continued to leave it
a matter of doubt, whether the bridge is at all supported by
the middle pier. It was erected on a plan nearly similar to
the Wittingen bridge; at the expense of about 8000. Jer-

BRIDGE.
Bridge.

Travellers inform us, that it shook if a man paffed over it; yet waggons heavily laden also went over it without danger. We are forefy to add, that this curious bridge was built by the French when they evacuated Schaffhausen, in April 1796.

Besides the wooden bridge already described, there are several elegant and well constructed edifices in Great Britain: the most eminent of which is that at Walton-upon-Thames. This bridge consists of three wooden arches, and one brick arch at each end; the middle arch was 150 feet in span, with a rise of 28 feet, constructed of three principal ribs, framed in the manner represented in Plate XXXIV. of Modern Architecture. It was the design of the ingenious carpenter, Mr. Etheridge.

Iron Bridges. Iron being the most abundant, cheap, and generally useful of all metals, has of late been employed in many works where great strength was required in proportion to the weight of the material: hence cylinders, beams, and pumps for steam-engines, boats, and barges for canals and navigable rivers, beams and pillars for warehouses and other large buildings, and at length bridges, have been constructed of iron.

Iron bridges are the exclusive invention of British artifices. The first that has been erected on a large scale is that over the river Severn, at Coalbrook Dale, in Shropshire. This bridge is composed of five ribs, and each rib of three concentric arcs connected together by radiating pieces. The interior arc forms a complete semicircle, but the others extend only to the cills under the roadway. These arcs pass through an upright frame of iron at each end, which serves as a guide; and the small space in the branches between the frames and the outer arc is filled in with a ring of about seven feet diameter. Upon the top of the ribs are laid cast iron plates, which fllam the roadway. The arch of this bridge is 150 feet 6 inches in span; the interior ring is cast in two pieces, each piece being about 70 feet in length. It was constructed in the year 1779, by Mr. Abraham Darby, iron-master at Coalbrook Dale, and must be considered as a very bold effort in the first instance of adopting a new material. The total weight of the metal is 770 tons.

The second iron bridge, of which the particulars have come to our knowledge, was that designed by Mr. Thomas Payne, author of many political works. It was constructed by Miers, Walkers at Rotherham, and was brought to London, and set up in a bowling-green at Paddington, where it was exhibited for some time. After which it was intended to have been sent to America; but Mr. Payne not being able to defray the expense, the manufacturers took it back, and the malleable iron was afterwards worked up in the construction of the bridge at Wearmouth.

The third iron bridge of importance erected in Great Britain, was that over the river Wear, at Bishop Wearmouth, near Sunderland, the chief projector of which was Rowland Burdon, esq. M. P. As this is the most considerable structure of the kind, it may be proper to give a brief sketch of its history. In consequence of the increasing trade and population of Sunderland and the two Wearmouths, the ancient ferry, which was almost in the middle of the harbour, had become very insufficient and unsafe; so that, besides frequent delays and disappointments, several instances had occurred of the loss of lives. About the year 1760, in which Mr. Burdon was returned to parliament by the county of Durham, some gentlemen interested in the welfare of the town and neighbourhood of Sunderland, united for the purpose of removing the evil arising from the ferry, and Mr. Burdon was appointed one of the committee. Conceiving at first that a stone bridge would be proper, they began to adopt measures for its erection. An architect was chosen to carry on the necessary works, who in due time produced plans, elevations, and a model of the intended edifice. But as the work was of considerable magnitude and importance, it was thought expedient to refer the design to the opinion of some gentlemen of celebrity for scientific and practical knowledge in and near the metropolis; their report being unfavourable, the scheme of erecting a stone bridge was abandoned. The committee, however, being now warmly engaged in the business, continued to prosecute their inquiries; and Mr. Burdon in particular being frequently called by his parliamentary duty to London, was very diligent in his endeavours to obtain information and hints from various quarters, as to the peculiar advantages and disadvantages of different materials, as well as of various modes of construction. Mr. Burdon had the good fortune to be affiliated in the maturing of his plans by Mr. Thomas Wilson, a truly ingenious man, and at the same time to learn much of the construction of iron bridges from Miers. Walkers, of Rotherham, so that at length he became persuaded that iron would be the most proper material of which to form the proposed bridge. He thought it best, however, to adhere to the ancient construction, by dividing the arch into portions in the manner of arch stones, and taking advantage of the ductility and tenacity of iron to produce an arch of that metal at half fifteen times lighter than a corresponding arch of stone, and capable of being put together upon an ordinary scaffolding, instead of an accurate centre, in a much shorter space of time.

Mr. Wilfon, in conjunction with Miers. Walkers, constructed and set up an experimental arch at Rotherham, which being found to answer expectation, the success of the experiment was communicated by Mr. Burdon to the town of Sunderland and the county; and his proposition for the construction of an iron bridge was accepted. The first stone was laid in September, 1793; and Mr. Wilfon was appointed to the superintendence of the work. The iron-work was cast by Miers. Walkers, of Rotherham, and the arch was turned upon a very light but firm scaffolding, so judiciously constructed that not any interruption was given to the passage of the numerous vessels which navigate the busy river of Sunderland. The mode of bracing the ribs was so simple and expeditious, that the whole was put together and thrown over the river in ten days; the scaffolding was immediately removed, and the bridge opened for general use on the 9th of August, 1796.

During the period occupied in erecting the bridge, Mr. Burdon took out a patent to secure the invention of "a certain mode or manner of making, uniting, and applying cast iron blocks to be sufficed in lieu of key-stones, in the construction of arches." He thus proceeds to describe his invention, which "consists in applying iron or other metallic compositions to the purpose of constructing arches upon the same principle as stone is now employed, by a subdivision into blocks easily portable, answerable to the key-stones of a common arch, which being brought to bear on each other gives them all the firmness of the solid stone arch, whilst, by the great valencies in the blocks, and their respective differences in their lateral position, the arch becomes much lighter than that of stone, and by the tenacity of the metal the parts are so intimately connected that the accurate calculation of the extrados and intrados, so necessary in stone arches of magnitude, is rendered of much less consequence. Fig. 4. Plate XXXIII. of Architecture represents a block of cast iron, five feet in depth from A to A, and four inches in thickness, having three arms B, B, B, and making a part of a circle or ellipse; the middle arm is two feet in length from B to C, and the
the other two are in proportion. On each side of the arms
are grooves (three quarters of an inch deep, and three inches
broad) for the purpose of receiving malleable or bar-iron,
and in each arm are two bolt holes, D. Fig. 2. represents
two of these blocks placed together, and the joints confined
to their respective positions by the bar-iron on each side of
the arms as at E, E, which, with other similar blocks to
united and bearing upon each other, become a rib. Fig. 3.
and F, fig. 2. are hollow tubes six feet long, and four
inches in diameter, having shoulders at each end, with holes
answerable to those of the blocks; G is a block of another
rib connected with the former by the tubes F, E, placed
horizontally. Through the holes in the shoulders and arms
of the block and bar-iron are bolts, fastened with coppers of
forelocks, as at H, H, H, H. The blocks being united
with each other in this, and the ribs connected and supported
laterally by the tubes as above described, the whole becomes
one mass, having the property of key flakes cramped togeth-
er. This extract serves to explain the more minute parts
of the construction: a few words more will describe the
structure itself.

The bridge consists of a single arch, whose span is 216
feet; and as the springing flakes at each side project two feet,
the opening being 210 feet. The arc is a segment of a
circle of about 414 feet diameter, its vered line is 344 feet,
and the whole height from low water about 10 feet, ad-
mitting vessels of from two to three hundred tons breadth
to pass under, without striking their masts. A series of one
hundred and five blocks form a rib, and six of these ribs
comprise the breadth of the bridge. The spandrels, or the
spaces between the arch and the roadway, are filled up by
call-iron arches, which touch the outer circumference of the
arch, and at the same time support the roadway, thus gra-
dually diminishing from the abutments towards the centre of
the bridge. These are also diagonal iron bars, which are
laid on top of the ribs, and extended to the abutments to
keep the ribs from twisting. The superstructure is a
strong frame of timber placed over to support the carriage-
road, which is composed of mall, lime-lime, and gravel,
with a cement of tar and chalk immediately upon the
planks, to receive them. The whole breadth of the bridge
is 32 feet. The abutments are made of solid masonry,
twenty-four feet in thickness, forty-two in breadth at
bottom, and thirty-seven at top. The foundation pier is
settled on the solid rock, and rises from about twenty-two feet above
the bed of the river. On the north side the ground was
not so favourable, so that it was necessary to carry the founda-
tion ten feet below the bed. The weight of the iron in this
extraordinary fabric amounts to 360 tons; 40 of these are
malleable, and 240 cast. The entire expense was 27,000l.

From this account of the bridge across the Wear, the
attentive reader will see much to admire in its construction:
it is not only wholly, totally free from defects. We conceive
that the spandrels are very improperly filled up. It is true,
that it is done in such a manner as is exceedingly light and
pleasing to the eye; but the iron hoops may, we think, be
casily compressed at the points of contact, and changing
their shape will oppose very little resistance. As the arch
forms so small a portion of a circle (about 64° degrees),
the weight of the spring of the arch need not, according to the
theory of elinbination, be double to that at the crown,
to support, without danger of rising, any prefire arising
from the masts of the structure itself; but in so flat and
light an arch, an overload on any part must have a great
tendency to bend it, and consequently tend considerably
to break it, at a small part, with all the energy of a
long lever: we think, therefore, that a better form might
have been adopted than what has been put in practice at
Wearmouth bridge.

The third iron bridge is that over the Severn at Buildwars,
about two miles above Coalbrook Dale. An old stone
bridge of three narrow arches having been carried away by a
high flood in 1795, the present iron bridge was planned and
built by the Coalbrook Dale Company, under the superin-
undence of Mr. Thomas Telford, the county surveyor, in
1796. Each consists of a single arch, 150 feet in span, the
rise from the springing to the top being 27 feet; and as
it was thought necessary to keep the roadway as low as pos-
sible, the side ribs are made to go up as high as the rail-
ing; they are connected with the ribs by the covering
plates, by means of pieces of iron dovetailed in the
ends of rings-polls. The plates which compose the covering
over the lower ribs, are cast with deep flanges; they are
laid close to each other, and form an arch of themselves.
These side ribs, or arches, would have added much more to
the strength of the bridge than they now do, had the mate-
rials been of a substance that would not expand or contract;
but that not being the case, they, in warm weather, when
they expand, rather tend to derange the other parts of the
bridge than strengthen it; and the appearance of the whole
is by no means pleasing.

About the same time that the bridge at Buildwars was
erected, an iron bridge was thrown over the river Teme in
Herefordshire. Its parts were so slender and ill-disposed,
that no sooner was the wooden centre taken away than the
whole tumbled into the river.

The splendid example of the bridge at Wearmouth gave
an impulse to public taste, and caused an emulation among
artists, which has produced many examples and more pro-
jects of iron bridges. The Coalbrook Dale Company have
constructed several, among which is a very neat one over the
river Parrot at Bridgewater. Mr. Willson, the engineer,
employed by Mr. Burdon, has also built several, and has
lately finished a very elegant one over the river Thames,
at Staines, which is by far the most complete in design, as well
as the bell executed, of any that has hitherto been erected.
This bridge consists of a single arch, 181 feet in span, and
10 feet 6 inches in rise, being a segment of a circle of
480 feet. The blocks, of which the ribs are composed,
are similar to those in the Wearmouth bridge, except
that there have only two concentric arcs instead of three, as
at the latter. The arcs are call hollow, and the blocks
connected by means of dowels and keys; thus obviating
the great defect observed at Wearmouth, of having too much
hammered iron exposed to the action of the air. Four ribs
form the width of the arch, which are connected together by
cross-frames. The spandrels are filled in with circles, which
support a covering of iron plates an inch thick: on this
is laid the roadway 27 feet wide. Two hundred and fe-
venty tons are the weight of the iron employed in the bridge,
and three hundred and thirty of the roadway.

For further practical details on the construction of bridges,
the reader is referred to the articles Foundations in Water,
Caisson, Cofferdam, &c.

BRIDGES. Theory of. In considering the theory of
bridges, the first object of enquiry is the nature of an arch,
and the principles on which depend its stability and perma-
nence. It will be seen, by referring to the article Arch in
this dictionary, that we have adopted the opinion of those
mathematicians who conceive that an arch is kept in equi-
librium, or from falling, by the weight or vertical pre-
ourse of the superincumbent wall or masonry. The principles
on which they proceed, have now obtained the name of the theory
of Equilibration.
It will be readily admitted, by those who attend to these subjects, that whatever properties may be shewn to relate to a geometrical or linear arch, considered without thickness, and of its superincumbent plane, may be easily and safely transferred to a real arch of solid materials: and the heavy matter sustained by it; for it is manifest, that a solid arch may be conceived either to be generated by the motion of a linear arch, and its plane in a direction perpendicular to that plane, or to be made up of an indefinite number of such equal linear arches and corresponding planes; and in either case, what is shewn to obtain with respect to the former, may without hesitation be applied to the latter. This the reader will keep in mind.

The first hint of a principle which we recollect, is contained in Dr. Hooke's assertion, that the figure into which a chain or rope, perfectly flexible, will arrange itself when suspended from two hooks, is, when inverted, the proper form for an arch composed of stones of uniform weight. The reason assigned for this principle is, that when the flexible filoon of heavy bodies becomes inverted, still touching one another in the same places, the force with which they press on each other in this last case, is equal and opposite to the forces with which they draw each other in the case of suspension. The curve formed by a rope, or flexible chain, of extremely small links, when thus suspended, is well known to our geometricians by the name of the catenary curve; by the French it is called la chaine:

If a curve of this kind be disposed in such a manner that its vertex shall be uppermost; and if a multitude of globes be so arranged that their centres shall be in the circumference of this curve, they will all remain motionless and in equilibrium: much more will this equilibrium subsist, if, instead of globes, we substitute this voutoirs, having flat sides, which touch each other in directions perpendicular to the curve. In the former case, the equilibrium will be destroyed very easily, just as a globe resting on a plane surface is easily put into motion; in the latter, the equilibrium cannot be destroyed without considerable force, just as when a heavy body is placed upright on a broad flat base, it will not only stand, but will require considerable force to push it over.

Since the catenary curve is readily described mechanically, it is no wonder that this principle of Dr. Hooke's should be very generally received; but many of those who adopted it, forgot that it could not be extensively applied, without certain modifications: these modifications, it will be seen farther on, cause this principle to coincide exactly with the true theory of equilibrium. As to the contrary, it is manifest, from what we have already said, that it is only the form of a very slender arch rib of uniform thickness, and unfit for the purpose of a bridge; which requires a considerable mass of masonry to be upon the arch and fill up the space to the roadway, thus completely destroying the equilibrium at first established in the arch itself. It would be possible, indeed, to construct a catenary curve of equilibrium, having a horizontal line for the extrados, but then the thickness of the mass above the crown of the arch must be enormous; thus, for a catenarian of 100 feet in span, and 40 feet high, the distance from the top of the arch to the horizontal extrados must have been nearly 37 feet to ensure an equilibrium. For these reasons the catenary curve has been very seldom used in the erection of bridges.

Another principle, which was first assumed about the end of the 17th century, is, that every perpendicular column of masonry above the arch is merely kept from sliding down the arch by the next adjoining column. It is very obvious, at first sight, that this principle is not confident with nature; it has therefore found but few advocates. When analytical expressions are deduced for the curvature of arches constructed on this principle, it is worth observing, that they coincide exactly with those which would flow from the supposition that the arch was in equilibrio, in consequence of having a fluid, with a horizontal surface, preying upon every part of it.

A third principle is drawn from the consideration of the arch stones being fruits, or parts of wedges. This principle, we believe, originated in France, and has been preferred in various forms by De l'Abbé, Belidor, Varignon, Parent, and other French philosophers, and lately by our ingenious countryman Mr. Atwood.

In the method now alluded to, it is considered what weight, in or upon a wedge, is balanced by forces acting against the sides; or what force such a wedge exerts both horizontally and perpendicularly to its sides; and thence it is computed what must be the position and shape of the contiguous wedges of given weights; or what must be their weights to a given shape and position, so as just to exert the adequate degree of resistance required by the first wedge; and so on, from wedge to wedge, till the whole is balanced. A mere wedge constructed in this way, would remain in equilibrio as long as the constituent vousoirs had liberty to slide, without friction, down the respective inclined planes on which they lay. This method is, indeed, liable to many objections. First, this theory requires, that either the density or the magnitude of the respective vousoirs, from the crown to the foot of the arch, should keep constantly increasing in proportion to the differences of the tangents of the several angles, while the joints of the vousoirs make up the vertex axis of the curve. Now, if the architect would wish to change the density of his materials in the required proportion, we know not what materials he could use; for the density must always be very great towards the spring of the arch; and, in many cases, it must be infinitely great. If, on the other hand, the magnitudes of the vousoirs were gradually increased, it would be necessary that those at the spring, and consequently the abutments, should be immensely great, and often infinite; besides, that the wedges must be cut to different oblique angles, very difficult in execution, and totally unsafe when erected as the acute angles would be in constant danger of flushing off. Here too, in real practice, there would be a total want of balance, on account of the masts of masonry and rubble work, which fills the space between the arch and the road-way. But even this is not all; the arch stones cannot be made, nor indeed ought they, to act as the true mathematical wedge, the properties of which were employed in attempting to establish the equilibrium. The wedge of these theorems is supposed to have its butting sides perfectly polished, and to have its weight or other force on its back balanced by proper equivalent forces acting perpendicularly against those sides. Now this is so far from being the case in the practice of bridge-building, that architects contrive to have the butting sides of their wedges so rough as to occasion a great deal of friction between them; and to increase the adhesion of these sides the more, they introduce between them the best and sturdest cement they can procure. By these means, so far from the arch stones being kept in their places only by forces perpendicular to their butting sides; and having liberty to slide along those sides, as in the wedge theory, they are absolutely prevented from the possibility of so sliding; and in a great measure kept in their places in the arch, by forces that act even perpendicular to those which the wedge theory requires. On these accounts, then, we conceive that, however specious and plausible this theory may appear on paper, it ought not to be admitted, since it is manifestly inapplicable to any case which can ever occur in real practice.

On the contrary, the theory which we have adopted, or that given
given by Emerson in his fluxions, published in the year 1742, and which has been so ably and judiciously handled by Dr. Hutton in particular, is consistent with nature and with truth. This theory establishes an equilibrium among all the vertical precesses of the whole fabric contained between the loftic, or under-side of the arch, and the road-way over all. It is now very generally adopted by the most skillful engineers and architects, as the only true one; because it ensures a balance in the whole of the points carrying water, by making an equality at every point of the curve, between all the adjacent precesses when reduced to the tangental directions, or perpendicular to the joints, which are supposed to be at right angles to the curve of the arch in every part, as the structure naturally required them to be; for, if the joints be perpendicular to the curve, there will arise a lateral precess, whose direction is not along the tangent; which, wanting a force to sustain it, will destroy the equilibrium, and some of the stones will endeavour to fly out.

When speaking of the principle advanced by Dr. Hook, we observed, that by means of peculiar modifications, it was capable of universal application to cases occurring in practice, and was at the same time consistent with the theory we have assumed. This we shall now proceed to shew. In Pl. XXXVIII. Architecture, fig. 1. is fig. 2. Pl. VI. (referred to in the article Arch.) completely inverted. Let this represent a flexible chord or chain, void of gravity, hanging from the points A and G, which are fixed; at the points B, C, D, E, F, suppose weights to be suspended, (acting in the directions BH, CI, DK, &c.) proportional to the several lines B, C, M, D, Fn, E, and FY. Then the chain now before us will be the complete inversion of that which is first stated in Proc. 1. article Arch., the drawing forces in this instance being respectively equal and opposite to the fissing precesses in that: therefore, every thing proved there, by means of the composition and resolution of forces, will be found to obtain here, only in a contrary direction. Consequently, if the number of weights hanging from the chord ADG be indefinitely increased, it will assume a curvilinear shape, similar in its nature to the arch of equilibrium, only in an inverted position; and the various theorems which relate to the weights and precesses of the falling arch, apply with equal facility and accuracy to the weights hanging from the suspended arch. Whether, therefore, we consider the falling or the hanging arch, it is equally true, that in the case of just equilibrium, the column either precessing or drawing at any point of the arch is reciprocally as the radius of curvature and the cube of the line of the angle, in which the vertical line cuts the curve in that point (Cor. 2. pr. 1. Arch.) or, since the coefficient varies as the fine inversely, the column above-mentioned is reciprocally as the radius of curvature, and directly as the cube of the feant of the curve's inclination to the horizon, in the given point.

But the analogy between the standing and the hanging arch has been traced out, not so much for the purpose of corroborating the true theory of equilibration, as for the sake of deducing from it a very popular and general mode of construction; strictly accurate in its principle, and yet so simple in its application, that the most illiterate artizan may safely practice it. Suppose it were required to ascertain the form of an arch which shall have the span AG (fig. 2. Pl. XXXVIII. Architecture) and the height D 8, and which shall have a road-way of the form BFC above it. Let the outline figure ABEGC be inverted, so as to form a figure A b e c G. Suspend a fine chain of uniform thickness from the points A and G, and of such a length, that its lower point will hang a little below d, corresponding to D. Divide AG into a number of equal parts (the more the better) in the points 1, 2, 3, &c. and draw vertical lines, cutting the chain in the corresponding points 1, 2, 3, &c. Now take pieces of another chain, whose links are easily separated, and hang them on at all the points 1, 2, 3, &c. of the chain A D G: when these pieces of chain, by taking off links at some places, and hanging on at others, till their lower ends all coincide with the inverted road-way B D. The greater lengths hung on in the vicinity of A and G, will pull down those points of the chain, and cause the middle point of, which is left loaded, to rise a little, and bring it near to its proper height. It is obvious this is an arch of equilibration for a bridge to loaded, that the weight of the arch-chains is to that of the superincumbent matter between the arch and road-way, as the weight of the chain A G, is to the sum of the weights of all the little bits of chain, very nearly. But this proportion is not known before-hand; we must, therefore, proceed thus: adapt to the curve produced in this way such a thickness of the arch-chains as may be thought sufficient to enable stability; then compute the weight of the arch-chains, and the weight of the rubbles, or other materials with which the lanacnes are to be filled up to the road-way. If the proportion of these two weights be nearly the same with the proportion of the weights of the chain, we may rest satisfied with the curve thus found: but if it be much different, we may soon find how much should be added to, or taken from, the appended bits of chain, in order to make the two proportions equal. We shall then have a curve infinitely near to the inversion of the curve wanted. This method we can safely recommend, as we know it to have been frequently used with facility and success.

It would draw us far beyond the limits we are obliged to align ourselves, were we to give a complete view of the theory in all its branches: those who are desirous of obtaining a more intimate acquaintance with the subject are, therefore, referred to Dr. Hutton's ingenious treatise on bridges; for our own parts, we must content ourselves with just touching upon a few of the most important particulars. Under the article Arch. and the corresponding plate, we have given figures of the extrados, of a circular and elliptical arch of equilibration; from which it may be seen how far the extrados extends from the vertex of the curve, before it becomes unfit for a road-way by reason of its bending upwards: in this respect, it appears, that the flat elliptics has the advantage of the circular arch; but the cycloidal arch of equilibration, though similar to these, has the advantage of both, because the extrados runs farther on, nearly parallel to the arch before it comes to the point of inflection. We should observe, however, that in many cases, even of circular or elliptical arches, the evil arising from the inflection of the extrados may be thrown off to a greater distance, by a very simple expedient: for, in an arch of equilibration, as SHB, fig. 3. Pl. XXXVIII. of Architecture, whole extrados is EIK SF, since the points at m, n, &c. are kept in equilibrio by the heights of the wall I, K L, &c. that if the lines Lm, Kn, Lc, &c. be divided in a given ratio in i, k, l, &c. the smaller masts, under the new extrados s, i, k, f, s, will still recede the equilibrium. Now it is obvious that this lower extrados runs much farther from the crown than the upper one, before it has a point of inflection: and hence appears one great advantage arising from the use of iron in bridges instead of stone. Suppose, for instance, that an arch was to be constructed, having the span AD, and height CB, and that the necessary thickness of a stone arch at the crown was BS; here it is plain, that if the road-way were made, having a practicable slope as SK a, it would fall far below the required extrados at KIE, and consequently, the arch, for

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want of a sufficient weight over the portion $A$ $m$ $n$, and an
equal portion on the other side of the vertex, would be in
constant danger of rising in the haunches. But a bridge
formed of hollow iron voussoirs would be abundantly strong,
with far less thickness over the crown, as $B$ $z$ ; and then
the true extrados $e k j f$ would, in every part, have a proper
slope for a road-way; while, at the same time, the structure
is in no danger of being destroyed for the want of an equili-
brium in all its parts.

We have mentioned under the article Arch, what kind of
arches ought to be preferred in the erection of bridges; and
have shown which are strongest: we may here observe, that
if there be two arches of the same kind, with an equilibrated
load over each of them, the strength of the one will be to
the strength of the other reciprocally, as the radii of curva-
ture at the vertices of the two arches; hence, an elliptical
arch, standing on its shorter axis, will be stronger than a fes-
micircular arch of the same span; and the semicircular arch
of equilibration will be stronger than a flat elliptical arch of
the same span. As to the effect of an additional weight
over any part of an arch, it will vary in proportion of the
horizontal distances from the extremities of the arch. Hence,
the greatest danger arising from an additional weight,
is when it lies over the crown of the arch; for then the
product of the horizontal distances from the abutments is equal
to the square of the semi-span, and is the greatest it can be.

Since in any arch of equilibration, the pressure arising
from the incident weight at any point is reduced to the
direction of the tangent at that point, we have in such an
arch $V B$, fig. 4. Pl. XXXVIII. of Architecture, the weight
of the part $V B E A$, the pressure along the tangent $F B$, and
the horizontal pressure in direction $D B$, respectively as
the lines $F D$, $B F$, and $B D$, or as the corresponding lines in
a triangle, whose sides are severally perpendicular to those in
$B D F$. Hence, it is easy to find the area of the portion
$A E V B$, thus: make $e$ parallel and equal to $C V$, the
radius of curvature at the vertex; and draw $e b$ perpendicular
to the tangent $B F$, meeting $o b$ the perpendicular to $e v$ in
$B$; then in the triangle $e o b$, $e v$ corresponds to $D B$, and
$o b$ to $D F$; and the area of the parallelogram $a v$, having
$e v = V E$, is equal to the area of $A B V E$: in like manner,
by drawing $e g$ perpendicular to $G I$, the tangent at $G$, we
should have the parallelogram $b e$ equal to the portion $H B$
over the part $G B$ of the arch. The area of the space
$H V G E$, between the arch and the road-way, being thus
ascertained, its weight of course becomes known, and,
consequently, its horizontal pressure against the abutment, as at
$G$: for it will be, as the line $e g$ : $o c$ :: the weight over
the semi-arch; the horizontal thrust against the abutment, or a
pier, at $G$.

But in estimating the thrust against the piers, &c, it is
most common to ascertain the position of the centre of gra-

tical line $D F$, passing through the intersection of the tan-
gents $A D$, and $B D$. And the centre of gravity of the
materials $A V K$, between the crown and the abutment, is about
the middle of the vertical line $E c$, passing through the
intersection of the tangents $A D$ and $V I$. If the arch
be part of a circle, $IV$ is the tangent of half the arch $A V$,
which, subtracted from half the span, leaves $A G = \frac{1}{2} AV$—
tangent of half $A V$; and since $G e$ is the line of
arc $A V$—verfle line of arc $e V$, we shall, by adding $e E$ to $G e$, have the altitude of the centre of gravity, from $A C$
the horizontal line. If $A V$ be a parabola, $A G = \frac{1}{2} A C$;
but if it be an equilibrated curve, with a horizontal extra-
dos, then $A G = \sqrt{\frac{1}{2} V H \times CV \times R}$, where $R$ is the radius
of curvature of the arch at the crown. When the arch is
not justly equilibrated, other methods of finding the centre
of gravity of the masts supported must be had recourse to.
See Hutton on bridges, p. 49—56. It may be worth
while, however, to describe here an easy practical method,
accurate enough for most purposes: namely, to draw on a
piece of card paper, a plan of the arch, and its load; then
to cut out half of it as $D A B C$, fig. 6. Pl. XXXVIII. of
Architecture, and to determine experimentally the point $K$
in the piece cut out, on which, when supported, the whole will
rest; for this point will manifestly correspond with the centre
of gravity.

The place of the centre of gravity being determined, we
may now shew how to ascertain the thickness of a pier, ne-
necessary to support a given arch. Let $A B C D$, fig. 6. Pl.
XXXVIII. represent the masts over half the arch; $D E F G$ the
pier. From the centre of gravity $K$ of the masts, draw $K L$
perpendicular to the horizon: then the weight of the arch,
in the direction $K L$, will be to the horizontal push, or lateral
pressure at $A$, in the direction $L A$, as $K L$ to $L A$. For
the weight of the arch in the direction $K L$, the horizontal push
in the direction $L A$, and the oblique push in the direction $K A$,
will be as the three fides $K L$, $L A$, $K A$. So that if $A L$
denote the weight or area of the arch, then

\[
\frac{A L}{K L} = G A \times X G A X A,
\]

its effect on the lever $G A$, to overact the pier, or to turn it
about the point $F$. Again, the weight of the pier will be
as its area $E F \times F G$, and, supposing the load over the arch
and the pier to be of similar materials, $E F \times F G \times G A F$
or $E F \times F G$, is the effect on the lever $G A$ to prevent the pier
from being overact. Here it is supposed, that the length
of the pier, from point to point, is the same as the
thickness of the arch, and that the centre of gravity of the
pier falls in the vertical plane bisecting $F G$. Now, that
the pier and the arch may be in equilibration, the two effects just
stated must be equal; therefore, we have

\[
\frac{1}{2} E F \times F G \times G A F = \frac{1}{2} G A \times \times X G A X A,
\]

from which it follows, that the thickness of the
pier is $G A = \sqrt{E F \times K L \times X A}$.

In the above investigation, it is supposed, that the whole
of the pier is out of water: but if any part of it be im-
mered in water, that part will lose so much of its weight
as is equal to its bulk of water, if the water can get below the
pier or into the joints. This, however, may easily be
brought into the calculation. By applying the above the-
orem to the several cases which may arise, the thicknesses
of the pier may be found, so that it shall just balance the spread
I
or shoot of the arch, independent of any arch on the other side of the pier. But the weight of the pier ought a little to preponderate, or exceed in effect, the shoot of the arch; and, therefore, the thickness ought to be taken a little more than what the theorem will give: indeed, in most cases occurring in practice, the thickness must be between the fifth and the seventh part of the span of the arch.

The only remaining consideration in the theory, relates to the form of the ends of a pier, to afford the least resistance to the force of the stream of water. Now, it may be found by a frictional process, that if the water strike every part of the pier with equal velocity, the end of the pier should be a right-lined triangle, when the force of the water upon it is the least possible: when the varied increased velocity, as in the case of a flooded, is used, the form of the ends comes out a little curved. One third of the absolute force is taken off, by making the ends of the pier semicircular: it would be taken off, if the ends were parabolic; but when the ends are right angled triangles, with the right angles pointed into the stream, the absolute force of the water upon the pier is reduced to one half; and an acute angle pointed into the stream will reduce its force still more. But in rivers, on which heavy craft navigate, and pass the arch, it is generally better to make the ends nearly semicircular: for, although it does not divide the water so well as the triangle, yet it will bear the shock of the vessels better, and, at the same time, be more likely to turn them off towards the middle of the arch.

Bridges, in Gunnery, the two pieces of timber which go between the two trunks of a gun-carriage, on which the bed rests.

Bridges, in the Military art. Flying bridge, pont volant, or pont d’abordans, signifies a bridge constructed of pontoons, leather boats, beams, hollow caissons, sheaves of pulleys, blown bladders, called aegopyres, or the like, laid upon a river, or marshy and boggy ground, and covered over with planks, for the passage of a body of troops.

Flying bridge, pont volant, taken in a more particular signification, denotes a bridge composed of several boats, connected by a flooring of planks, and surrounded by a balustrade or railing. It is furnished with one or more masts, to which is fastened a strong cable, supported at proper distances by boats, and extending to an anchor to which the other end is made fast, in the middle of the water. By this contrivance, the bridge becomes movable, like a pendulum, from one side of the river to the other, without other help than a rudder. Such bridges were formerly sometimes constructed of two stories, for the quicker passage of a great number of men, or that both infantry and cavalry might pass at the same time. The use of this kind of flying bridge is, however, attended with great difficulty and danger, and subject to the most fatal accidents. An unfortunate instance of this occurred at the evacuation of Nimegun in the campaign of 1794, where, while the Dutch garrison were occupied in crossing the river, an unlucky shot from the French batteries carried away the top of the mast, and the bridge swinging round to the enemy’s side of the Waal, above 400 of the garrison were immediately made prisoners. Those who remained in the tower, to a much greater number, were by the means of escapers, rendered to the besiegers.

Another kind of flying, or floating bridge, is formed of two small bridges laid one another in such a manner, as that the uppermost stretches and runs out by the assistance of cords drawn through small pulleys, placed along the sides of the undermost bridge, which is thus pulled forward, till the farther extremity of it rests against the place it was intended to be fixed upon.

When these two bridges are extended to their utmost length, so that the two middle ends meet, they should not be above four or five fathoms long; for if longer, they will break. Their chief use is for surprising out-works, or fortified posts that have but narrow moats. In the memoirs of the Royal Academy of Sciences, we find a new contrivance of a floating bridge, which lays itself on the other side of the river. Vide Hill, Acad. R. Sci. au. 1743, p. 194.

Draw-bridge, or pont abaisseur, is a bridge fastened at one end with hinges, so that the other end may be lifted up or let down by some easy contrivance. The most common method is by a kind of balance called phers (which see); in which case the bridge stands upright, to hinder the passage of a boat, or the like; the breadth of this bridge is usually about nine or ten feet, and its length about fifteen feet. There are others so constructed as to be drawn back, for hindering a passage, and to be thrall over again for affording a passage. Others open in the middle, half turning to one side, and the other half to the other, being joined again at pleasure; but these are subject to an obvious inconvenience, as one half of them remains on the enemy’s side. The marquis de L’Hopital has given the construction of a curve, in which a weight will always be a counterbalance to a draw-bridge; which the younger Bernouilli has shown to be no other than the cycloid. Act. Erud. Lips. an. 1695.

Drawbridges are likewise frequently used on canals, navigable rivers, and wet-docks; for small canals they consist of one leaf or frame only, movable on hinges; but for large canals, such as the Forth and Clyde canal, in Scotland, and for wet-docks, &c. they are made in two pieces which meet in the middle, forming an arch, and are raised or lowered by means of balance frames, movable on the tops of uprights, suited in height to the magnitude of the bridge. Such bridges, however, have been found inconvenient in use, owing to the obstruction they give to the yards and rigging of ships in passing through them. This gave rise to the invention of a different sort of bridge, which, for small canals, consists of one frame or leaf only, turning on a centre or series of balls or rollers, and for large canals, or navigable rivers, they are formed of two parts, which meet in the middle. The first that have come to our knowledge are those at Cherbourg and Toulon. Neither of them, however, are so complete as those that have lately been constructed at the West India and London docks; the latter spans 40 feet, and 15 feet wide in the roadway, and is made of thin ribs of cast iron, about an inch and a half thick, turning on a number of concentric rollers, moving between two circular rings of cast iron, which are very nicely turned, and there is a flap for each leaf, which lets down by a screw, and abuts against the stone work on each side, forming the whole, when shut, into an arch, capable of carrying any weight which can ever pass over it.

The whole, though weighing 8½ tons, moves with great ease, and can be opened and shut in less than three minutes, thereby occasioning very little obstruction to travellers, while vessels pass through the locks.

Bridge of communication, is a bridge made over a river, to preserve a free intercourse between two armies, or fortified places, separated by the stream.

The bridge now most generally employed, and which, by reason of its superior efficacy, has gradually almost superseded the use of all those above-mentioned, is that constructed of copper or wooden boats, fastened with stakes or anchors to the bed of the river, and covered over with planks.
planks. Modern armies generally carry with them a number of these copper boats, or pontoons, that they may always be in readiness for throwing over bridges. Several of these being joined side by side, till they reach across the river, and planks laid over them, make all plain for the troops to march upon.

The most remote ages of antiquity furnish us with many remarkable instances of bridges of this kind. One of the earliest upon record, is that laid by Darius Hyphasis over the Ister, or Danube, in his Scythian expedition, about the year before Christ 528. Herodotus, l. i. c. 98. Darius also crossed the Thracian Bosphorus with 700,000 men by means of a bridge of boats, the flait being five fadias, or 1,008 yards in breadth. That of Xerxes, in the year 480 before Christ, seven fadias wide, or, as some estimate them, nearly a mile in length, across the Hellespont, is still more remarkable. The boat-bridges of Xerxes began at Abydos, and terminated a little below Selinus. This passage, which is the narrowest part of the Ister, is only about 1,752 toises, or 880 yards wide. But, as the length of the bridge is laid to have been seven fadias, M. D'Anville (M. de l'Acad. des Bell. Lettr. t. 28. p. 334.) has from hence inferred, that these fadias were only 51 toises, or 108 yards, each. The first bridge of Xerxes having been carried away by the force of a tempest, he substituted two others, that towards the Pontus Euxinus, consisting of 360 vessels of the largest dimensions used in the ancient navies; the other of 340. These were steadied moored by means of large anchors. Six immense cables, fastened to large pins driven into the opposite shores, extended the whole length of the bridges. Across these were laid trunks of trees, and upon them a flooring, which was covered with earth for the passage of the army. The whole was secured by a railing on each side. This contrivance is the model of most of the bridges of boats which have since been constructed, with this difference, that the vessels of Xerxes were arranged item and item upon the water, a plan exactly contrary to the present method. That the Persians were in the habit of constructing bridges of this kind, appears from these examples, and from another recorded by Xenophon, who mentions that of Sissae over the Tigris, composed of 27 boats. The Greeks and Romans were very expert in this part of the military science. Several bridges of boats are mentioned by Appian, in his account of the civil war. That of Cæsar over the Rhine is familiar to the readers of ancient history; and in all his campaigns, we observe particular attention on the part of that celebrated commander, with regard to the passage of rivers, or preserving communications by means of bridges. In the contest between the armies of Otho and Vitellius about Cremona, a bridge of this kind is noticed by Tacitus. That of Trajan over the Danube has been already mentioned. Where boats were wanting, the ingenuity and cruelty of the ancients found other expedients for overcoming the obstacles presented by the rivers to their progress. Hamilcar Barca, in his war against the mercenary army, crossed the Macræ by means of the following stratagem. He observed that when the west-north-west wind prevailed, the sand it agitated almost choked up the mouth of the river, and formed a kind of natural bridge for the passage of his troops. He availed himself of this discovery to pass the Macræ in the night, and obtain by surprise an easy victory. Saper the Perian, by a refinement in cruelty, made use of the bodies of his prisoners to facilitate the passage of his army. (Vid. Herod. lib. iv. cap. 97, 99—Ibid. lib. vii. cap. 32—36—Xenophon Anab. lib. ii.—Appian, de Bel. Civ.—Cæsar de Bel. Gall. lib. iv.—Tacitus, hist. lib. ii.—Dion Cassius, hist.—Polybius, lib. i.—Trebell. Poll. in Vat. cae.)

Of late years the laying of bridges across rivers has been greatly improved and facilitated. In the campaigns of 1799 and 1800 in particular, this branch of the military science attained that pinnacle of excellence which it will be difficult to surpass. Few objects present more varied details than the crossing a river by open force, and in presence of an enemy. In operations of this kind, localities and other physical circumstances differ infinitely, and give rise to such numerous combinations of advantages or disadvantages, that it is impossible to lay down any given precepts which may be applicable in all cases. What may be very proper and feasible upon one river, or at a certain season of the year, may be impracticable elsewhere, or in any other period. Sometimes the necessaries for the expedition must be transported by water; at others, by land. Rivers which have marshy banks, a smooth bed, an even current, and a muddy bottom, require totally different precautions from those with a rapid and formidable current, which are overlung with thick woods, or have a rocky bottom. The best commentary upon these several cases, will be a detailed account of the operations adopted in them.

The piaffages of the Rhine by the French troops at Urtingen, Neuwied, Kehl, and Dierhagen; at Reichlingen, Atzmooor, and Lucetfliege in Switzerland; those of the Limmat, the Danube, the Lech, the Inn, and finally of the Mineo, will evince the progress lately made in the construction of bridges of pontoons. Two of these have been treated with great precision by an engineer in the French service, whose work well defends the attention of military men in general. (Dedon, relation des piaffages, de la Limmat et du Rhin. Par. 1801, 8vo.)

Under this article of bridges we may also mention portable bridges, easily taken and put together again. M. Couplet mentions one of this kind, 300 feet long, and which 40 men may carry. See Du Hamel. Hist. Roy. Acad. Scienc. i. iii. § 5. c. 4.

Pendant, or hanging bridges, called also philosophical bridges, are those which are not supported by posts or pillars, but hang at large in the air, being sustained only at the two ends or butments. Of such bridges, consisting of a single large arch, instances have been already mentioned. Bridges of this kind are used by the Spaniards for passing the torrents in Peru, over which it would be difficult to throw more solid structures either of stone or timber. Some of these hanging bridges are formed so strong and broad, that loaded mules pass along them. Ulloa, tom. i. 358. Dr. Wallis gives the design of a timber-bridge, 70 feet long, without any pillars, which may be useful in places where pillars cannot be conveniently erected. Phil. Trans. N° 163, p. 714.

Dr. Plott informs us, that there was formerly a large bridge over the canal-ditch at Tisbury in Staffordshire, made of pieces of timber, none much above a yard long, and yet not supported underneath, either with pillars or arch-work, or any other sort of prop whatever.

It has been already mentioned, that the ancient Romans paid particular attention to the construction and repair of bridges; and that in the middle ages the building of bridges was reckoned among the acts of religion. By our ancient laws, pontium repuratio, or the repair of bridges, was part of the trinoda necessitas, to which every man's estate was subjected. However, by the great charter, 9 Hen. III. c. 15. no town nor freeman shall be restrained to make bridges nor banks, but such as of old time, and of right, have been accustomed. And none can be compelled to make new bridges, where none were ever before, otherwise than by act of parliament. 2 Inst. 701. By the common law, some perfons are bound to repair bridges by reason of the tenure of
of their lands or tenements; and some by reason of prescription only. 2 Inft. 700. But if a man make a bridge for the common good of all the subjects, he is not bound to repair it; and if none are obliged by tenure or prescription at common law, then the whole county or franchise shall repair it. 2 Inft. 701. By 22 H. VIII. c. 5. it is enacted, that, as in many places it cannot be known and proved, what hundred, town, parish, person, or body politic, ought to repair bridges broken in the highways; in every such case, the said bridges, if they be without a city or town corporate, shall be made by the inhabitants of the county; if within a city or town corporate, then by the inhabitants of such city or town corporate; or, if part be in one, city, or town corporate, and part in another, or part within the limits of a city or town corporate, and part without the, inhabitants of the town, cities, or towns corporate, shall repair such part as lies within their limits. The decay of bridges are preventible in the least, or torn. 2 Inft. 701. By the above act, the justices, or four of them at the least, shall have power to inquire, and determine in the general felion, of all manner of annoyances of bridges broken in the highways, to the damage of the king's hiege-people, and to make such process and pains upon every pretence against such as ought to be charged to make or amend them, as the king's bench usually doth, or as shall seem by their directions to be necessary and convenient for the speedy amendment of such bridges. Such part of the highways as lies next adjoining to any ends of any bridges within the space of 300 feet, shall be made and repaired as often as necessary; and the justices shall inquire into, and determine annoyances in such highways. By 12 Geo. II. c. 29, no money shall be applied to the repair of bridges, until pretence be made by the grand jury at the assizes or felions, of their insufficiency, inconvenience, or want of reparation. Again, by 1 Ann. R. 1 c. 18, no fine, fine, penalty, or forfeiture, upon any pretence or indictment for not repairing bridges, or the highways at the ends of them, shall be returned into the exchequer, but shall be paid to the treasurer, to be applied towards the said repairs, and not otherwise: and no pretence or indictment for not repairing bridges, or highways at the ends of bridges, shall be removed by "certiorari" out of the county into another court. The charges of repairing and amending bridges, and highways at the ends of them, shall be paid out of the general county rate. 12 Geo. II. c. 29. The four justices in felion may appoint two surveyors, with salaries, to see the bridges amended. 22 H. VIII. c. 5. This business of surveying bridges is usually annexed by the justices to the office of the high constables, with the allowance of salaries. The stat. 14 Geo. II. c. 33, gives justices the power of changing the situation of bridges, as it enables them to purchase lands adjoining any county bridge, for the more commodious enlarging, and convenient rebuilding the same. By 12 Geo. II. c. 29, justices, at their general or quarter felions, after pretence made by the grand jury of bridges wanting reparation, may contract for rebuilding and repairing the same, for any term not exceeding seven years, at a certain annual sum. They shall give public notice of their intention to contract, make contracts at the most reasonable prices, and take security of the contractors for due performance.

If a man has toll for men or cattle passing over a bridge, he is to repair it. And toll may be paid in these cafes by prescription or statute.

By many special statutes, enacted upon the occasion, it is made felony to destroy bridges, &c. erected by virtue of these acts of parliament.

Bridge-masters, are officers of the city of London, chosen by the citizens, who have certain fees and profits belonging to their office, and the care of London bridge, &c.

Bridge, in Masonry, a small wooden machine for stringing to reef on, in tuning violins, tenors, bases, guitars, monochords, &c. In this last the bridges are moveable.

BRIDGENEND, in Geography, a town of Glamorganshire, in South Wales, situated on the banks of the river Ogmore, over which is a stone bridge, dividing the town into two parts. One of these is called Bridgend, and the other Newcaflle. The latter, being feated on high ground, commands some very fine and extensive prospects. There is another part of the town called Oldcastle, by way of distinction from the former, each of which was formerly protected by a castle, and some remains of both are still standing. At Oldcastle is a chapel of ease under Coity, that being the mother-church; and at Newcaflle is a large well-built parifh church. The river Ogmore abounds with salmon, trout, eftin, and various other fish, with which the markets are generally well supplied. The foil round Bridgend is fertile and well cultivated; and the town is also in a state of considerable improvement. The agricultural society of the county has established a woollen manufactory in this town, and supplied it with different machines. About two miles east is the village of Coity, where are the remains of a very large and venerable castle, which, next to Caerphilly, was the largest in South Wales. Bridgend has a good weekly market on Saturdays, and two fairs annually. It is 20 miles from Cardiff, 181 W. from London; contains 1683 houses, and 7140 inhabitants. Malkin's Tour in South Wales, 410. 1804.

BRIDGENDIRTH, a large ancient borough town of Shropshire, England, is built on the top and declivities of a hill, which rises steeply from the river Severn. It covers a considerable extent of ground; many of the streets are narrow, and some alleys which lead from the river, conftitute of long flights of steps. Bridgenorth appears to have obtained some confluence as early as the time of Ethelreda, wife of king Ethelred; and was fortified and furnished with a castle by Robert de Belfeme, or Beliamse, son of Roger de Montgomerie, in the time of Henry I. Collecting a few associates, he here made a stand against the forces of that monarch, but, being vanquished, was obliged to fly into Normandy; where, according to Speed, he continued to "blow those embers that others had kindled." The castle at this place appears to have been of great extent and importance, and was mostly occupied by the Normans during their wars against the Welsh. In the reign of Richard II. it was committed to the custody of Hugh de Burrell, a favourite of that monarch, whose remains were interred at Hales Owen church in this county. In the civil wars, this castle was the scene of a violent struggle between the forces of the king and those of the parliament. It was then much battered; and one of the towers which now leans about ten degrees out of the perpendicular, was then partly undermined. The singular position of this building very much resembles one at Pisa in Italy, and is often contemplated with wonder by the passing traveller. Part of the site of the castle is occupied by a large handsome new church, and at the other end of the town is an ancient church which suffered much in its ornaments, painted glass, &c. in the above wars.

Bridgenorth is separated into two parts, divided by the Severn, and respectively called from their relative situations, upper and lower town. The hill on which the former stands rises almost perpendicularly from the river, and conffits mostly of solid rock, in which many cellars are excavated.

This borough had several privileges granted it by charters from
from Henry II. and king John; and returned members to parliament ab origine. It is governed by two burgesses, annually elected out of twenty-four aldermen; and the right of election is vested in the burgesses and freemen within and without the borough, amounting to about 700. There are a large well-supplied weekly market on Saturdays, and three annual fairs. The town contains 945 houses, and 4308 inhabitants, 3805 of whom are employed in the manufactures and trade of the place.

David Caldwell died at Bridgend in November 1765, at the advanced age of 107 years. He was born in the army in the first of Ayr, Scotland, and served as a drummer in King William's army, and many years a soldier under queen Anne. He perfectly retained his faculties to the last. Camden's Britannia. Magna Britannia. History of the Burghs of Great Britain.

BRIDGES, James, in Biography, published, in 1751, a well known work on the subject of farriery, in which he appears to have been well versed, with the following quaint title: "No Foot, no Horfe; or, an Effay on the Anatomy of the Foot of a Horfe. With particular Directions for the Cure of the chief Internal Difficulies the Horfe is liable to." With plates, 8vo. London. Haller. Bib. Anat.

BRIDGET, St. in Heraldry, an order of knighthood instituted in Sweden in 1366. They were to oppose hereby, secure the confines of the kingdom, bury the dead, feed the widows and fatherless children, and to keep up hospitality. Their emblem was a cross of eight points, four of which were moline, the other flower delis, azure, and under a tongue of fire proper. This badge or emblem was embroidered or a yellow white robe.

BRIDGE-TOWN, in Geography, the capital of the island of Barbadoes, situate in the south-western part of the island, in the parish of St. Michael, and in the innermost part of Carlisle bay. This bay is large enough to contain 500 ships, being one league and a half long, and one broad; but the bottom of it is foul, and apt to cut the cables. The town lies at the entrance of St. George's valley, which runs several miles into the country. It has a free-school, an hospital, and a college, founded and liberally endowed by colonel Codrington; but its success is fad not to have answered the deigns of its founder. It has also commodious wharfs for loading and unloading goods, and is well defended by a number of forts; such as James fort on the west, Willoughby's fort on a tongue of land running into the sea, Needham's fort, and St. Anne's fort, which lies more within the land. But thus secured from foreign enemies, it is very subject to hurricanes, and it has often suffered from fires. It was burnt down in 1688; and in 1765, 1766, and 1767, the greatest part of the town was destroyed. Before the destruction occasioned by the two last of these fires, it contained 1500 houses, mostly constructed of brick, very elegant, and said to be the finest and largest in all the Caribbean islands; the town has been since rebuilt; but it had severely riven from its ruins, before it was made a scene of devastation by a violent storm in 1780. See Barbadoes. It is again recovering its former splendour. The streets are paved, and the houses lofty, and well built. The church of St. Michael is as large and beautiful as many cathedrals, and is furnished with an excellent organ and ring of bells, and a curious clock. Upon the whole, the town is deficient of few elegancies or accommodations for entertainment and amusement which are to be found in the cities of Europe. This is the seat of the governor, council, assembly, and court of chancery, &c. Within a mile of the town to the north-eaft, the governor has a handsome country villa, built by the assembly, called "Pilgrims." The number of militia for Bridge-town and the precinct of St. Michael is 1200 men, who are called the royal regiment of foot-guards. Packet boats have been lately established to carry letters to and from Great Britain monthly. The adjacent grounds are low and flat, and were often overflowed by the spring-tides, which rendered the situation of the town insalubrious; but most of them have been drained, and it is now reckoned as healthy as any place in the island. N. lat. 13° 9' 30". W. long. 60° 8' 30".

BRIDGE-TOWN, a settlement of America in Cumberland county, and district of Maine, having Hebron on the N.W. and Bakers-town (on the west side of Androscoggin river) on the S.E.; which three settlements lie on the northern side of little Androscoggin river. It contains 529 inhabitants; and lies 34 miles N. by N.W. from Portland, and 156 N.E. from Boston. Bridge-town consists of large hills and valleys; the highland affords red oak of large size, and the valleys are covered with rock maple, ash, elm, birch, pine, and hemlock. In this district is a pond, on the east side of which is a cove, extending about 300 rods farther to the east than the general course of the shore, and is shallow, that a man may wade 50 rods into the pond. On the bottom of this cove are stones of various sizes, which appear to have an annual motion towards the shore, though some of them are two or three tons in weight. The shore of the cove is lined with these stones, which seem to have moved out of the water.

BRIDGE-TOWN, the chief town of Cumberland county in New Jersey, near its centre; 50 miles S.S.E. of Philadelphia, 80 S. by E. of Trenton, and 145 S.W. of New York. Also, a small town in Queen's county, Maryland, lying on the western side of Tuckahoe creek, 8 miles E. from Centreville, as far S.E. from Church-hill, and 65 S.W. from Philadelphia.—Also, a town of Kent county in the same state, seated on the north bank of Chester river, 7 miles S.E. from Crofts Roads, and 4 furthither from Newmarket.

BRIDGE-TOWN, in the island of Antigua. See WILLOUGHBY BAY.

BRIDGEWATER is a large, populous borough, and market town of Somersetshire, England, seated on the river Parret, which winds in a bold stream hence towards the estuary of the Bristol channel. The town is situated in a flat and rather woody country, having rich moors to the north and eafe. It was formerly of much greater importance than at present, as it has suffered material injury by means of conflagrations, and various vicissitudes of warfare; particularly in 1645, when the town was besieged by the parliament's army under the command of Sir Thomas Fairfax, who committed great devastations. The markets are on Thursdays and Saturdays; and for the accommodation of those who frequent them, a spacious and convenient market-house was erected. There are also four annual fairs. Bridgewater is a very ancient corporation, governed by a mayor, recorder, two aldermen, and twenty-four common-councillors. The town was formerly protected by a castle, the greater part of which was demolished during the civil wars. It was in the castle yard, or castle fields at Bridgewater, that the duke of Monmouth encamped his raw and undisciplined troops, previously to his battle on Sedgemoor, where he was defeated. The castle and manor were formerly held by the queens of England. The corporation have also their peculiar manor within the town. The church dedicated to St. Mary is a large handsome structure, with a tower and spire at the west end. A very fine altar piece was given by the Hon. Anne Powlett. Here was formerly an ancient hospital founded by William Bri- were in the time of Henry III., but not a villige of it remained.
Bridgewater sends two members to parliament; and the right of voting is vested in the inhabitant householders paying rate and lot. The revenues of the corporation, consisting of the manor of the borough, the great and small tythes, with some manors in Dorsetshire, are valued at 500l. per annum. The authority of the magistrates extends throughout the parish, and the corporation are conservators of the river Parret. The burgesses are free in all parts of the united kingdom, except London and Dublin; and the sheriff of Somersetshire cannot fix any process into the borough, it having been made a county within itself by Henry VIII. It was made a free borough by king John, a mayor town by Henry IV., and sent to parliament 23rd Edward I. This borough was formerly under the patronage of the celebrated Bubb Doddington, and has been the object of strong contention in different elections. The Biddonover county feoffons are constantly held here; and the alizes every other year. At the port there manufactures of Manchetter, Liverpool, Birmingham, &c. are landed for the use of the western counties. The duties paid for imports are very considerable. Coals are also brought from the Welch coast to supply the town and neighbourhood: the duty on which for seven years was estimated at between 15 and 17,000l. Thirty-two vessels belong to the port from 20 to 120 tons burthen. The town contains 473 houses, and 3694 inhabitants, 956 of whom are engaged in trade and manufactures. The houses are built in an irregular manner; but the principal street is wide, and well paved. The quay is also large and commodious. There are several meeting-houses for presbyterians, annabaptists, and quakers; and it is a singular circumstance, that in one of these there is a pew appropriated for the mayor and aldermen, should they be of that persuasion. Bridgewater is 147 miles W. from London, and 12 S. from the Bridgford channel. A suburb called Eastover, is joined to the town by a strong stone bridge. See Sedge- moor. Collinson's History of Somersetshire, vol. iii. 400. 1701.

Bridgewater, a township of America, in Grafton county, New Hampshire, incorporated in 1769, and containing 281 inhabitants.—Alfo, a township of Somerset county, in New Jersey, containing 2778 inhabitants, including 377 slaves.—Alfo, a considerable township in Plymouth county, Massachusetts, containing 4975 inhabitants, of whom many are manufacturers of hardware, nails, &c.; about 30 miles E. of S. from Boston.—Alfo, a township of Windsor county, Vermont, about 55 miles N.E. of Bennington, containing 2933 inhabitants.

Bridle, from la bridle, Fr. in the Manege, is an instrument for the guidance and management of the horse by the hand, and is composed of the bitts and reins, which see.

"It is probable, that some time must have elapsed before the instrument called a bit was used for the government of horses, by putting it into their mouths. By looking back into antiquity for the practices of past times, and the origin of many customs defended to us, we everywhere find the greatest plainness and simplicity in their first state; and the more ancient, the ruder and simpler they were. The style of architecture, the fashion of the habits and dressers of early times, the method of preparing food, and many articles besides, are convincing proofs of this assertion. By degrees light broke in, and men advanced progressively from one improvement to another. It is curious to observe, that in ancient Greece many of the terms appropriated to navigation were also used in horsemanship. The word καλλία, or κελος, which signifies a ranier, served likewise, as Suidas says, to denote light falling vessels, and swift horses. Homer calls ships horses of the sea; and the pilot, the coachman or driver of the vessel. Pindar calls a bridle an anchor; and in this sense Neptune may properly be called the inventor of the horse, which implied no more than a slip. These little observations are only offered to the reader as an argument that bits and bridles were used in the most distant ages; but at what exact period to fix their origin, is a tale by no means easy to perform. It is probable to suppose, that the people of the first ages of the world, prompted by their necessitities, and acting from them alone, made no other use of the horse at first than what might be for domestic purposes, teaching him to subtil to carry men and burdens; and having reconciled and made him patient, they taught him, by degrees, to distinguish and obey the different sounds of the voice, as well as to be directed by the guidance of a switch or wand which the rider carried in his hand. It is, however, apparent, that they made use of cords or thongs to stop and confine the horse in any place where they chose he should stay. These cords they fastened round the horse's neck, as may be seen in the figures, though of a much later date, carved upon Trajan's pillar at Rome. These ropes hanging down from the necks of horses, are imagined to have suggested the first hint of traces for drawing machines. Strabo says that the Moors, or Africans, used cords for bridles. It is probable to think, that after a time they might discover, that if a cord was put into the mouth, or at least over the nose, like our halters, which may be used both ways at the same time, it would be a more effectual method of guiding and controlling the horse; and hence is derived the supposed origin of bridles, which, in after ages, have been multiplied in such numbers, and under such a variety of shapes, increasing and improving as men grew more skilful in riding, and applied it to various purposes." Berenger, Hist. of Art of Horsemanship, vol. i. p. 40.

When bridles came into fashion, the most remarkable were thes called "lupata," having bits of iron resembing wolves' teeth, to which Horace refers, l. i. od. 8.

"Cur nque militaris
Inter aquas equitum, Callipe nec hepatis,
Temperat ora franchis?"

Virgil (Georg. ii. l. 115.) seems to ascribe the first invention of them to the Lapitha, or Centaurs, who inhabited a town in the Thessaly, called "Pektirionum," when he says,

"Ferrea Peltorhionum lapithae, gyroque dedere
Impositi dorfo."

But some are of opinion, that he speaks of bridles, as invented not by the Lapitha, but by a person of that nation, whose name was Pelecrhonius, to whom Pliny (Hi. N. L. vii. c. 56.) attributes the invention of them.

Bridle, in Anatomy. See Fossa Nasi.

Bridle, among Surgeons, is a kind of Bandage contrived for retaining the lower jaw in its place.

Bridle, foolding, or Brank, an instrument formerly used in some parts of Scotland, and in Staffordshire, for correcting foolding women. It consists of a kind of head-piece, which opens and inclines the head, whilst an iron appendage is put into the mouth, and takes particular hold of the tongue, which it effectually keeps from flaring: thus harnessed, the offender is led in triumph through the streets. A figure and description of the Staffordshire bridle is given by Dr. Plot, who prefers it to the ducking-stool, which not only endangers the health of the party, but also gives the tongue liberty betwixt successive dips; to neither of which inconveniences this instrument is liable.

Bridle chain, in Husbandry, a name given by our farmers to a part of the structure of their Plough. This is an iron chain of several links, fastened at one end to the beam of the plough, near that part where the collar receives the
the tow chain; and fastened at its other end to the flake of the plough, or to that upright piece which runs parallel to the left cross-ripple, and at its bottom pins in the tow-chain; this flake is fastened to the cross-ripple, sometimes by the end of this trident-chain, and sometimes by a yoke or cord.

Bridles, in the Metage, signifies the horsemans left-hand, in respect of which the right hand is called the spear or sword-hand.

Bridles in Scowl-speak, denote the upper part of the murrings in the king's harbours, to rule ships of war.

Bridles of the bow-line. See Bow-line.

BRIDLINGTON, or BURLINGTON as sometimes written, in Geography, is a seaport town of the east riding of Yorkshire in England. It is built on the shore of a bay, to which it gives name, which is found to be a safe harbour for vessels, when the wind is strong from the N. N. W. and N. E., being secured by two projecting piers of considerable extent, running out obliquely into the sea, and rendering the entrance very narrow. The principal trading vessels are colliers, and most of the inhabitants are connected with these. Here was formerly a priory of black canons, founded early in the reign of Henry I. The church has been large, but its choir, transept, and screen, have been entirely destroyed, leaving only the nave for parochial service. A Mr. William Hufler was a considerable benefactor to the town, and in the 17th Charles II. Richard Boyle baron Clifford was erected earl of Burlington, (from this town). In the 8th William III., and 11th of George I. acts of parliament were obtained to repair the piers, &c. of the harbour. Bridlington is now frequented as a bathing place; it lies at about 10 miles S. W. of Flamborough-head, 40 east of York, and 206 north from London. The houses amount to 707, and inhabitants to 3150. Gough's edition of Camden's Britannia.

BRIDON, or Broidon, in the Metage, is derived from the French Brion, a diminutive of la bride. By la bride, the French denote the reins going to the curb; and by broidon, the reins going to the snaffle or leffer bit, which is held in reserve in case of any accident with the former. In the English language, it is called a broidon, and a very different use is made of it. The reins of the broidon pass parallel to the line of the horse's head, through a loop hanging from the head stall, and from thence to the hook of the faddle, for they are only used in harness or horses at present, especially of the richer orders of society, and where elegance of appearance is considered. The rein so disposed draws against the corners of the mouth, and not upon the bars, as the snaffle does, and tends more forcibly to elevate the head, as the curb does to depress it; though they are often used at one and the same time, the snaffle having an intermediate effect.

Bridles of late have been constructed with a property, somewhat similar to the broidon, to be used with the hand, the rein passing from the head stall, through a tube or pipe placed in the situation of the crofs piece of the snaffle, to the hand; so that when drawn tight against the mouth, it presses the cheeks upwards, and shortens the head-stall which has not a good appearance. A ring is also fixed to this hollow crofs piece for the reins, as in the ordinary snaffle, so that the rider has it in his option to use either.

Bridport, in Geography, an ancient borough, market and manufacturing town of Dorsetshire, England, is situated in a vale at the distance of about one mile north of Bridport bay. It is nearly surrounded by eminences, some of which assume a conical shape; and on its western and eastern fides, run two small rivulets, which are highly useful to the manufacturers. Seated on the great western road, at the distance of 135 miles S. W. from London, it derives many advantages from travellers, and further advantages from its contiguity to the English channel.

It seems to have been a very considerable town before the conquest, as it is thus noticed in the Domesday Book: "In Edward the Confessor's time, here were 120 houses, subject to every service to the king, and paying geld for 5 hides, viz. to the use of the king's demesnes, (Hufcarles) a mark of silver, except the customs pertaining to the farm of one night for one night's lodging. Here was one mill-master, who paid to the king one mark of silver, and 20 shillings on the charge of coinage. Now there are but 100 houses, and the remaining 20 are ruined, that the inhabitants are unable to pay the tax." The manor anciently belonged to, and was held of the crown, in fee-farm by the burgesses, to whom it now belongs. The town received its charter of incorporation from Henry the III., who granted "to the men of Bridport, that the village should be a free borough; and that they and their heirs should hold it, with all liberties, &c. paying yearly to the exchequer at Michaelmas, the farm which they usually paid, and 40s. for the increas of the village." The charter now in force was granted by Charles II. The earliest return to parliament was made in the twenty-third of Edward I. The right of election is vested in the inhabitant householders, paying foot and lot, and the number of voters is about 160. This town does not seem memorable for any historical transaction, though it appears to have been alternately the quarters of the royal and parliament's troops during the civil wars; and in the duke of Monmouth's rebellion, several exiles were committed here by his forces. In 1655, the town exhibited a solemn scene, when twelve of its inhabitants were executed for being actively concerned in that rebellion. The town is large, and has a very respectable appearance; many of the houses being new brick buildings, and its principal streets are broad and spacious. The number of houses is 289; of inhabitants 3177, who are principally supported by the manufacture of reams, and nets of all sorts, lines, twines, and small cordage, as well as sail-cloths. Large quantities of these articles are exported to America and the West India islands; but the greater part is consumed in the Newfoundland and British fisheries; it being computed that upwards of 1500 tons of hemp and flax are worked up annually. This manufacture was so flourishing in the reign of Henry VIII., that cargoes for the whole English navy were every V. I. to be made exclusively here, or within five miles of the place. A handsome market-house and town-hall has been erected in the commencement of the town, on the ruins of an old chapel dedicated to St. Andrew. Here were formerly several religious foundations, no relics of which now appear. Here are also a charity-school, three alm-shafts, and a gaol. The church is a large ancient pile of building, in the form of a crofs; the tower in the centre of the structure is adorned with pinnacles and battlements. The diluters in this town have meeting-houses, and are both numerous and respectable. The canopy is situated at the mouth of the river Brid, a mile fromh the town. It does not appear that Bridport was of any consequence in maritime affairs; and although several attempts have been made to make it a port, they have all proved ineffectual. The cliffs here are composed of sand, though the surrounding country is covered with lime-fune full of shells. The height of the cliffs is in some places nearly 200 feet; and they contain belemnites and other fossils; besides pyrites, gypsum, hepatic ore, &c. Giles de Bridport, consecrated bishop of Salisbury March 11, 1256, was, according to Leland, "cauliff Bridport, because he was born," in this town. The markets are Wednesday and Saturday; and there are three fairs annually. Hutchins's History of Dorsetshire, vol. i.
BRIEF, in Geography, one of the largest and most fertile principalities of Silesia, surrounded by those of Oleś, Breslau, Schweidnitz, Munsterberg, Nystadt, Oppeln, and in a detached part of it bordering on Poland. Its form is irregular; its extent being about 36 miles in length, and from 8 to 21 in breadth. It produces corn, rye, and tobacco. The first duke of Bries was Wolfenbüttel (1126), who obtained it in 1134. From him it descended to Frederick II. who embraced Lutheranism in 1523; and in 1537 concluded a compact of fraternity and succession with Joachim II., elector of Brandenburg; and on this was founded the claims of Frederick II. king of Prussia. The chief towns of this principality are Bries, Ohlau, Striche, Ocinplitz, Creutzburg, and Pitschen; and its chief rivers are the Ohlau and Oder.

Brief, in Latin Briefe, a city of Silesia, a circle-town, and the capital of the above province; seated on the river Oder.

BRIEF, or Brevis, a town of Asiatic Turkey, in the Arabian Israel; 140 miles N.W. of Bassora.

BRIE, the name, before the revolution, of a district in France, situated partly in Champagne, and partly in the Ile of France, and called from its particular situation "Brie Champenoise," and "Brie Françoise," or "Brie Parfaicienne." The principal towns are Meaux, Provins, and Chateau Thierry.

Brief for Hierarchy, or Brief de Robert, so called from Robert of France, count of Brie, a former poissillon, a town of France, in the department of the Seine and Marne, and chief place of a canton, in the district of Melun, settled on the Yerre, and is partly S.E. of Paris. The town contains 2,571, and the canton 8,089 inhabitants; the territory comprises 170 kilometres, and 15 communes.

BRIEG, a town of France, in the department of Finisterre, and chief place of a canton, in the district of Quimper; 12 leagues N.W. of Quimper. The town contains 5,000, and the canton 47,35 inhabitants; the territory includes 222,24 kilometres, and 2 communes.

Brief, formed from the French brief, of the Latin brevis, which signifies the name, denotes a thing of short extant or duration. It is more particularly used for a summary, or short slate of a thing; and also for an act or writing drawn up by a notary.

Brief attested, Breve testatum, a public instrument clothed with the proper formalities.

Brief of devising, Brevis divisionalis, denotes a last will or testament, or devise.

Brief of an oath, Brevis sacramentum, an instrument made on oath, and authenticated by the subscription of witnesses.

Brief is also used for a judicial epistle, directed by a lord or other superior to his subjects or dependants, enjoining some thing to be done or forborne. In which sense, we say, the lord's, king's, bishop's, or pope's brief.

Brief also denotes the territory or district within which the lord's brief had course. In which sense, we meet with the bishop's brief, breve episcopi, the count's brief, breve comitis, &c.

Brief also denotes the yearly revenue arising out of the lands usually described in briefs.

Brief, Brevis, in Common Law, is so called, quia breviter intentionem profert, ut brevis, because couched in a few plain words without preamble, &c. See Brief.

Brief also signifies an abridgment of the client's case, made out for the introduction of counsel, on a trial at law; in which the case of the party is to be briefly but fully stated; the proofs must be placed in due order, and proper answers made to whatever may be objected against the case of the client by the opposite side; and in preparing this, great care is requisite, that nothing be omitted to endanger the case. An attachment has been granted against a party and his attorney, for unreservedly getting possession of the brief of a counsel on the other side, and applying the same to an improper purpose in his defence. 1 Dowl. P. C. 519. Although a brief is not of itself evidence against the party for whom it is prepared, yet, as the discovery of the secrets and merits of his case may be productive of perjury or subornation of perjury, and thereby obstruct the justice of the court in which the suit is depending; the obtaining of it in a surreptitious manner is an offence highly deserving censure and punishment.

Brief, in State Law, a writ issued from the chancery, directed to any judge, ordinary, commanding and authorising that judge to call a jury to inquire into the case mentioned in the brief, and upon their verdict to pronounce sentence.

Brief a P. Eryxium, denotes a writ to the bishop, which, in "quae impedit," shall go to remove an incumbent, unless he restore, or be presented; "pendente lite." 4 Rep. 368.

Brief is also used for a letter patent, granting a licence for collecting money to rebuild churches, relieve lost by fire, &c.

Churchwardens are, by flat. 4 Ann. c. 11, to collect money upon these briefs, which are to be read in churches, &c. and the funds collected to be indorsed on the brief in words at length, and signed by the minister and churchwardens; after which they shall be delivered, with the money collected, to the persons undertaking them, in a certain time, under the penalty of 20l. A register is to be kept of all money collected, &c.; and the undertakers, in two months after the receipt of the money, and notice to sufferers, are to account before a master in chancery, appointed by the lord chancellor.

Briefs, apostolical, denote letters which the pope dispatches to princes and other magistrates, touching any public affair. They are thus called, as being very concise, and written on paper, without prefix or preamble; by which they are distinguished from bulls, which are more ample, and always written on parchment, and sealed with red wax; whereas briefs are sealed with white wax; and with the seal of the fisherman, or St. Peter in a boat; a seal is never applied, but in the pope's presence. The brief is headed with the name of the pope, apart; and commences with "Dilecto filio suum," et apostolicae benedictione, &c. after which it proceeds directly to the matter in hand, without further preamble. Briefs are not suberbished by the pope, nor with his name, but with that of his secretary. Pope Alexander VI. instituted a college of secretaries for briefs; since which time they have been made much longer, and more ample than before. See ABBREVIATOR. Formerly briefs were only dispatched about affairs of justice; but now they are likewise used in matters of benefices, exchequer, and dispensations.

Brief of the dead, Brevis mortuorum, were letters sent by the monks of one monastery to the others of another, with whom they were in fraternity, to inform them of the deaths or obits of their monks, for whom they were to say the fatted and customary prayers and masses.

These were also called brevia eurrentia, a formula in which we have in the book of the usages of the Cistercian order.

Brief of remembrance, Brevis recordationis, or memorandum, or memorable, denotes a character, otherwise called NOTITIA.

Brie, in Geography, one of the largest and most fertile principalities of Silesia, surrounded by those of Oleś, Breslau, Schweidnitz, Munsterberg, Nystadt, Oppeln, and in a detached part of it bordering on Poland. Its form is irregular; its extent being about 36 miles in length, and from 8 to 21 in breadth. It produces corn, rye, and tobacco. The first duke of Bries was Wolfenbüttel (1126), who obtained it in 1134; from him it descended to Frederick II. who embraced Lutheranism in 1523; and in 1537 concluded a compact of fraternity and succession with Joachim II., elector of Brandenburg; and on this were founded the claims of Frederick II. king of Prussia. The chief towns of this principality are Bries, Ohlau, Strichen, Nimptsch, Creutzburg, and Pitschen; and its chief rivers are the Ohlau and Oder.

Brie, in Latin Briefe, a city of Silesia, a circle-town, and the capital of the above province; seated on the river Oder.
BRIENNE-LE-CHATEAU, a town of France, in the department of the Aube, and chief place of a canton, in the arrondissement of Bar-sur-Aube, 4 leagues N.W. of Bar-sur-Aube. The place contains 3,193, and the canton 4,062 inhabitants; the territory comprises 27 square kilometres, and 28 communes.

BRIENNOIS, a name given before the revolution to a small district of France, in Burgundy, near the Loire, of which Semur-en-Briennois was the capital.

BRIENON, or BRIENNO, a town of France, in the department of the Yonne, and district of Auxerre; 2 leagues W. of St. Florentin.

BRIENTZ, a lake of Switzerland, in the canton of Bern, about 8 miles long and 2 wide; situated nearly at right angles with the lake of Thun.—Also, a town of Switzerland in the same canton, adjacent to the lake, and N.E. of it; famous for the cheese made in its vicinity; 22 miles S.E. of Bern. The river Aar runs through the centre of this lake.

N. lat. 46° 31'. E. long. 7° 52'.

BRIENZA, a town of Naples, in the Principato Salerno; 20 miles N. of Poligiorno.

BRIES, BREZNA, BREZNO, or BANI, a royal free town of Hungary, seated on the river Gran, which by succ-
Brigantes, where they regulate together the guards, parties, detachments, and convoys, and appoint them the hour and place of rendezvous at the head of the brigade, where the brigade-major takes and makes them to the place of general rendezvous. A major of brigade ought to keep a roll of the colonels, lieutenants-colonels, majors, and adjutants, belonging to the brigade. When a detachment is to be made, the major-general of the day regulates with the brigade-majors, how many men and officers each brigade shall furnish; and they again, with the adjutants of the regiments, how many each battalion is to send, which the adjutants divide among the companies. The complements each regiment is to furnish, are taken by the adjutant at the head of each regiment, at the hour appointed, who delivers them to the brigade-major at the head of the brigade, who again delivers them to the major-general of the day, and he remits them to the officer who is to command the detachment.

BRIGADIER-GENERAL, an officer whose rank is the next above that of a colonel, appointed to command a corps consisting of several battalions or regiments, called a brigade. Every brigadier marches at the head of his brigade upon duty. The brigadier of foot commands him of horse in garrison, and the brigadier of horse, him of foot in the field. Brigadiers of the horse-guards command youngest captains of horse, who have generally some higher rank in the army.

SUB-BRIGADIER of a troop of horse-guards, an assistant of the brigadier.

BRIGADINE, in Heraldry, a jacket or coat of mail, consisting of a number of small plates of iron, sewed upon quilted linen or leather, covered with the same, and worn by troopers called brigands.

BRIGANDINI, BRIGANTI, BRIGANDINARI, or BRICANT, in Middle Age Writers, military thieves, or highwaymen, who infested France and the Netherlands. See BRABANCIONES.

BRIGANTES, in Ancient Geography and History, a people of very ancient origin, who occupied several parts of Rhetia, the islands of Britain, Spain, &c. According to Stephanus Byzanzianus, they were the same with the Breeci or Brigei; and the Brizes were, according to Strabo (Geogr. l. xii. p. 550.) the same with the Phryges or Phrygians. From a passage in Herodotus (l. vii.) it appears, that they retained the name of Brizes whilst they remained in Europe with the Macedonians; but that when they migrated into Asia, they were disfigured by the appellation of Phryges. Some have thought, that the name of Brigantes was derived from Gomri or Gombrí, the descendants of Gomer, one of the most ancient progenitors of the people of Europe; by colloquing the Celtic cant, denoting a hundred, whence is derived Combríant, and expressing the termination bríant, by the Latin Brigantes. Whatever be the etymology of the name, the Brizes or Brigantes are placed by Steph. Byz. in the mountains of Thrace and Macedonia; and some of them, as Herodotus informs us, passed into Phrygia, whilist others proceeded as far as Rhetia towards the west, where Strabo recognizes them. Here we find the lake "Brigantius," and a town of the Brigantes. From hence they advanced towards the north, following the course of the river Rhine, which signifies, in Celtic, the conductor, as far as the ocean, and crossed it to the British islands. It is not improbable, that others of the Brigantes migrated into Gaul, and there founded the city of the Brigantes, now called Briancon, and that other colonies of the same nation passed into Spain, where we discover a reference to their name in several places. Those Brigantes who traversed the ocean into the isle of Albion became the most numerous and powerful people of the ancient Britons. Their territories reached from sea to sea, quite across the island, and comprehended that large tract of country, which is now divided into Yorkshire and the county of Durham on the east coast, and Lancashire, Westmorland, and Cumberland on the west. These Brigantes are supposed to have been descended, as we have already intimated, from the ancient Phrygians, who were the first inhabitants of Europe, and to have come over into this island from the coast of Gaul, before the Belgæ arrived in that country. They were settled, without doubt, in this island in times of very remote antiquity, and effaced themselves the Aborigines, or first inhabitants of it. The Brigantes were not in the least affected by the incursions of the Romans under Julius Caesar; but Seneca (in Ludo) intimates, more probably, with poetical compliment than truth, that they were subdued by the emperor Claudius:

"__Illa Britannos
Ulto noti litoris ponti, et corubus
Senta Brigantes, dare Romuleis colla catenis
Julli."

It appears, however, that they soon contracted some alliance with, or made some kind of submission to, the Romans. For, when Octavius, the Roman governor, had defeated the Icenii, and was marching his army into the west against the Canti, he was called away by the news of an insurrection among the Brigantes, which he for a while quelled. Tacitus Annal. l. xii. c. 32. But it also appears (Id. l. xiv. c. 36.) that these people were, sometime after this, governed by their own princes, particularly by the famous Cartimandua, who was a faithful and useful ally to the Romans. They afterwards commenced hostilities against the Romans in the beginning of Vespasian's reign, A. D. 70, and were partly subdued by Petilius Cerialis, then governor of Britain, and soon after totally reduced by the renowned Agricola. Tac. Vit. Agr. c. 17. 20. The country of the Brigantes compassed almost the whole of the fourth Roman province in Britain, called "Maxima Caelebris," and was governed by the confidant president of that province. During the times of the Romans, this was a frontier province, and was therefore much frequented, and carefully guarded by that people. The towns of the Brigantes were Epipactum, Vinovium, Curtaractonum, Calatum, Hortum, Rigedunum, Olicana, Eboracum, and Camulodunum; which see respectively, Henry's Hill. Book i. c. 3. § 1.

The Brigantes of Ireland are supposed to have lived in that part which is now the county of Waterford, adjoining the river Brigs. It is natural to conclude that there were either a colony of the Brigantes of Britain, or sprung from the same race. Even general Vallancey seems to admit this; and he has quoted a passage from a work of Mon. Brigante, showing the Brigantes to be Celts of the posterity of Japhet, and to have received their name from their attention to navigation. That they proceeded immediately from Germany and Rhetia is rendered probable by Plutarch's having placed near them the Carvei and Menapii, people found in Germany on the coasts of the ocean. The English words, brig and brigantine, are supposed to be derived from the same source.

BRIGANTI, ASINIAL, in Biography, a celebrated Neapolitan physician, who flourished the latter part of the 16th century, published, in 1577, at Naples, two small works in Italian, 4to. the one containing "Regulations proper to be observed for preventing the propagation, and diffusion of the plague;" the other, "On the prevention and cure of the meales;" also, "Epilobio medicinale." Svo. 1578; much commended by Toppius. The author treats largely

BRIGANTINE, a small, light, flat, open vessel, which goes both with sails and oars, and is either for fighting or giving chase.

It has usually twelve or fifteen benches on a side for the rowers, a man and an oar to each bench. Brigantines are principally used by the Corsairs, all the bands aboard being soldiers, and each having his musquet ready under his oar.

But the term is generally used for a merchant-ship with two masts, though mariners of different nations apply it to a peculiar sort of vessel of their own marine. Among English seamen the rigging of a brigantine or brig is little different from the fore and main masts of a ship, the braces of the main on the main-mast leading forward. The after-main-yard must be served from the main-head to the dead-eye, to prevent its being chafed by the main-boom and gaff. The after-luff-ley is fitted with a tackle, that it may be hauled when the main-fall jibes, or is hauled forward by the boom-pendent and tackle. Briggs carry no main-yard, but a cross-jack-yard.

BRIGANTINUS LACIS, in Ancient Geography, a lake of Rhettia, now the lake of Constance, which fec.

BRIGANTITON, or BRIGANTIA, a town of Rhettia, seated on the preceding lake, now Bregenz; which fec. — Also, a town of Galia Narbonnensis, E. N. E. of Saline, in the country of the Catuvenses, near the pass into Italy across the Alps, reckoned in the times of the Romans among the cities of the second order, and exhibiting in the inscriptions, and medals of gold, silver, and copper, which have been found in its vicinity, traces of its ancient importance, now Briason; which fec. — Also, a town of Hispания Citerior, seated at the bottom of a small gulf, north of Magnus Portus, and near it, now Batanoe; which fec.

BRICE-BOTE, BRIG-COTE, or BRIG-COTE, in Ancient Law Writers, signifies a being freed from contributing to the reparation of bridges. See PONZAGE. The word is formed of the Saxon brige, abridge, and cote, compensation. It is sometimes also written bruch-cote, or bruch-cote.

BRIGEUM, in Ancient Geography, a town of Spain, towards the S. W. of Allarica.

BRIGES. See BRIGANTES.

BRIGEUL, in Geography, a town of France, in the department of the Vienne, 8 miles E. of Montmorillon.

BRIGGS, Henry, in Biography, a celebrated mathematician, was born at Warley Wood, near Halifax, in Yorkshire, about the year 1561; and admitted a scholar of St. John's college, in the university of Cambridge, in 1579; where he took the degree of Bachelor of Arts in 1581, that of Master, in 1583; and was chosen fellow of his college in 1588. His favourite study was the mathematics, in which he excelled, so that in 1592 he was appointed examiner and lecturer in that faculty, and soon after reader of the philosophy lectures, founded by Dr. Linacre. Upon the settlement of Gresham college, in London, he was chosen the first professor of geometry, in 1596; and at this time he constructed a table for determining the height of the pole from the magnetic declination; which table was published in Dr. Gilbert's books, "De Magnete," and by M. Blondeville, in his "Theoriques des sept Planetes;" London, 1607, 4to. In 1609 he commenced an acquaintance with Mr. James Usher, afterwards primate of Ireland, which was maintained by a correspondence for several years. In one of his letters, dated March 1615, he informs him, that he was wholly employed about the noble invention of logarithms, lately discovered; which he explained in his lectures, proposing an alteration in the scale of Baron Napier, from the hyperbolic form to that in which 1 should be the logarithm of the ratio of 10 to 1. This alteration was proposed to the baron in a letter; and, in 1616, Briggs made a journey to Scotland for the purpose of conversing with him on the subject; and he repeated his visit in the following year. The result of their conferences, which were conducted with singular mutual respect, was the adoption of his plan; so that upon his return from the second visit, Briggs published the "Chilias prima," or first thousand, of his logarithms, in 8vo. In 1619, he was appointed the first professor of geometry, at Oxford, in the institution founded by Sir Henry Savile; and resigning his professorship at Gresham college, in 1620, he removed to Oxford, and settled at Merton college, where he was soon after incorporated master of arts in that university, and where he continued till his death. Although his time was much occupied in the duties of his office, and in the prosecution of his labours on logarithms, as well as other important subjects, he published, in 1624, a small tract on the "North-west Passage to the South Sea," through the continent of Virginia and by Hudson's bay, occasioned by his being a member of the company trading to Virginia, and reprinted in vol. iii. of Purchas's Pilgrims. His next performance was the extensive and elaborate work, entitled "Arithmetica logarithmica," printed at London, in 1624, folio; containing 30 chilias of logarithms from 1 to 20,000, and from 90,000 to 100,000, calculated to 14 places of figures, besides the index. To this work he prefixed a large dissertation on the nature, construction, and use of logarithms, and on the method of supplying the intermediate numbers from 20,000 to 90,000. He also completed a table of the logarithmic sines and tangents for the whole quadrant, for every hundredth part of a degree, to 14 places of figures, exclusively of the index, with a corresponding table of natural sines, to 15 places; and of tangents and secants for the same, to ten places. These tables, in which the intermediate logarithms of the numbers from 20,000 to 90,000 were supplied by Mr. Adrian Vlacq, of Targowa, in Poland, were published at Gouda, under his care, in 1628; and a translation of this edition was published at London, under the title of "Logarithmicae Arithmeticae," &c. "In 1634, folio. Mr. Briggs had conceived the design of illustrating at large the use of logarithms in the doctrine of spherical triangles, and proposed to complete it in two books; but he lived to write only the first; leaving the second to the care of his old friend Mr. Henry Gellibrand, who finished the work, and it was published at Gouda, in 1633, folio, under the title of "Trigonometria Britannica," &c. "De Doctrina Triangulorum, libri duo, &c." An English translation of it was published in a folio treatise by Mr. John Newton, in 1638, under the same title. In the execution of both these works, Mr. Briggs manifested a very surprising combination of affidious application and inventive genius; and furnished several important discoveries in the mathematics, which have been ufually referred to a later period; such as the binomial theorem (which see); the differential method and construction of tables by differences; the interpolation by differences; angular sections, &c.

This eminent mathematician died January the 26th 1630, in Merton college, and was buried in the choir of the chapel, under the honorary monument of Sir Henry Savile, having over his grave only a plain stone, with his name inscribed on it. Dr. Smith, in his "Comment. de Vit. et Stud. H. Briggs," London, 1707, 4to, gives him the character of a man of great probity, easy and accessible to all, free from arrogance, moroseness, envy, ambition, and avarice, and preferring a fludious retirement to all the splendid circumstances of
of life. The learned Mr. T. Gataker, who attended his lectures at Cambridge, represents him as highly esteemed by all persons skilled in the mathematicks, both at home and abroad. Mr. Oughtred calls him "The mirror of the age for excellent skill in geometry." Dr. Barrow, his successor at Gresham college, in his inaugural oration, celebrates his great abilities, skill, and industry, in perfecting Napier's remarkable invention of logarithms; which, without his care and pains, might have remained an imperfect and useless design.


6. "Animalia" of Geometricals. 4to. 7. "De codem Argumento," 4to. These two last treatises contain a great variety of geometrical propositions concerning the properties of many figures, with several mathematical computations relating to the circle, angular &c.


BRIGHT, Brit. See Logarithms.

BRIGGS, William, was born at Norwich, which city his father represented in parliament, about the year 1652. At the age of 13 he was sent to Bennet college, in Cambridge, and placed under the care of Dr. Afterwards archbishop, Tenison. Having taken his degrees of bachelor, and master of arts, in 1682, he was chosen fellow of the college. He now quitted the university, and went to Montpellier, where he applied diligently to the study of medicine, particularly attending the lectures and demonstration of Viluana, in anatomy. On his return from the continent he published, at Cambridge, "Sphalhographia, five Oculi, ejusque Partium Delineatio Anatomica, cui accedit nova Viisios Theoria," 12mo. 1576. The year following he took his degree of doctor in medicine; and fixing in London, he was made fellow of the College of Physicians, and of the Royal Society. In 1682 his "Theory of Viition," was published in a separate volume by Hook. The year following he was sent to the Royal Society, a continuation of his Theory of Viition, with answers to some objections that had been made to it. This was printed in No. 147 of the Philosophical Transactions. The fame acquired by these works brought him into considerable practice, and he was soon after made physician to St. Thomas's hospital. On the revolution he was appointed physician to king William, and continued in great favour and reputation to the time of his death, which happened at Town Malling, in Kent, September 4th, 1704. Dr. Briggs also sent to the Royal Society, "Exemplum Cæcitatis nocturnæ et Visionis duplicis," which is printed in No. 159 of their Transactions. In 1693, he published a Latin version of his Theory of Viition, with a recommendatory epistle from sir Isaac Newton, affixed to it. In the preface he promises two other works on the subject, viz.

"De Usis Partium Oculi, et de Afflictibus eisibus." These, however, were never printed. Haller Bib. Avit. Gen. Biol.

BRIGHT, Timotheus, a physician of eminence of the 16th century, united, as it was not unusual at that time, the clerical with the medical character. He took his degree of doctor in medicine at Cambridge; and, as we learn from Wood, he was made rector of Mathley, in Yorkshire, in 1591. He appears by his writings to have had a good share of practice, and to have been well versed in the doctrines of the early Greek writers. The work by which he is principally known is his "Treatise of Melancholy," containing the causes thereof, and reasons of the strange effects it worketh in our minds, with the physical and spiritual consolation for such as have thereto adjoined an afflicted conscience," 12mo. 1586, London. He excuses his writing this treatise, contrary to his usual custom, in the English language, from its being a practical work, and to be read by persons out of the pale of physic. It was also done, he observes, by the Greek and Roman writers. He entertained, however, very lofty ideas of the dignity of the medical character. "No one," he says, "should touch to holy a thing that hath not passed the whole discipline of liberal sciences, and washed himself pure and clean in the waters of wisdom, and understanding." The care of melancholy is to be attempted by bleeding, by purges and vomiting. The reasons for using these remedies are assigned. He had before, viz. in 1583, published "De Dyscrasia Corporis Humani," 12mo. London. He was also author of "Hygiene, seu Sanitate tuae, Medicinae Pars prima," 12mo. 1588. "Therapeutica, hoc est de Sanitate retiliueda, Medicinae pars altera," 12mo. 1589. They were reprinted in 1598, in 1610. Haller Bib. Med.

BRIGHTHELMSTON, or popularly BRIGHTON, in Geography, a celebrated bathing place, market and sea-port town, on the Sussex coast, England. Its name is said to be derived from Bright, a Saxon bishop who lived here, or in the vicinity. The town stands mostly on an eminence, which slopes gently to the south-east, where is that beautiful verdant walk called the Steyn, which is the general promenade of the bathing visitors. To the north and north-east, the town is sheltered by a range of hills, called the South Downs, which, by breaking the current of cold wind from the north, render the atmosphere of the town generally mild and temperate. This, combining with a pleasant beach, and the frequent residence of the Prince of Wales, have given much celebrity to Brighton, and occasioned a considerable resort of company during the summer months. This town is mentioned in the Domesday book, by the name of Brilemestone; and Mr. Lee, in his history of Lewes, &c. infers that it was a place of some note in the time of Anglo-Roman dynasty, from the quantity of Roman coins, &c. that have been found in its vicinity. The landed property of Brighton is divided into three manors; and was at the conquest possessed by William de Warren. About this period a castle of Flemings settled here, and appear to have applied themselves wholly to fishing. The town continued merely a small fishing place till a very recent period. It was provided with a market, by charter obtained through the influence of John de Warren, earl of Surrey, in 1343; and in 1773, an act of parliament was obtained for a daily market. The situation of the town on the coast of the island, opposite France, has subjected it to repeated attacks and much distress in the time of war with that nation. At the commencement of the wanton and impolite war proclaimed by Henry VIII. A.D. 1543, against Lewis XII. of France, we find that Brighton was plundered by the enemy, who also wreaked their vengeance by burning many of its houses. In consequence of this
this event, and the continued terror which prevailed during war, the inhabitants resolved to erect fortifications, as some security against future attacks. A block-house for ammunition, &c. walls, gates, and other means of security were therefore provided for the town in 1578, and in 1613. It does not appear that Brighton suffered any thing material from foreign foes after the latter period; but the boisterous ocean now commenced building, and, previously to the year 1615, desolated twenty-two copyhold tenements under the cliffs, besides a good deal of attached land. In the months of July and August, one hundred and thirteen tenements, with the block-house, walls, gates, &c. were and timed by the eneuying waves, which have since made great destructions on this shore. In 1621, Charles II. secretly embarked here for the continent, and thus escaped the vigilant pursuit of his cruel enemies.

In consequence of the repeated damages done by the sea, the inhabitants of Brighton published a large sum of money, and collected much more by brief, &c. in order to raise some artificial barrier; and early in the last century the cliffs were secured by wooden fences, called groins, projecting towards the sea. This town may attribute its popularity to Dr. Richard Ruffell, who, having settled here, wrote a treatise on the importance of sea-bathing, and successfully recommended the practice in nephrologus, and glandular complaints. He caused a valuable mineral spring at Wick, about one mile from the town, to be inclosed in a basin. A building was afterwards erected over it. The name of Ruffell must be held in grateful remembrance by the inhabitants of all watering places, if they reflect that he was the reformer, and great promoter of that highly important restorative of health—sea-bathing. To commemorate his name, the late Rev. Dr. Manningham wrote the following lines,

"Chlor per onsum Ruffelli fama manebit
Dum retinct vires unda marina funs.
Admirant ages Ruffeli name shall know
Till ocean's healing waves cease to flow.

The successor of Dr. Ruffell, (Dr. Rhellan) also contributed to bring Brighton into repute by publishing the natural history of the town in 1760.

Brighton is the iteration for packets between this part of England and Dieppe, &c. Here are several charities, and endowed schools; also a convenient, but small play-house, erected in the year 1782. The church, an ancient structure, stands on a hill, a little north of the town, and contains some curious, and interesting monuments, and inscriptions.

In the east street of Brighton, which forms the western boundary of the Steyn, stands the Marine Pavilion, a residence of his royal highness the prince of Wales. It was finished in the year 1787, and from its eastern front commands a fine view of the sea, &c. Adjoining to this, is an excellent family mansion belonging to the duke of Marlborough; many other elegant houses, handloom rows, squares, and streets, now combine to give Brighton a respectable appearance, and render it attractive, and comfortable for its inhabitants and occasional visitors. It is 51 miles south from London, 8 from Lewes, and contained in 1801, 1427 houses, and 7339 inhabitants. Ancient and modern History of Lewes and Brighton. by W. Lee, 1800.

BRIGOSUM, in Ancient Geography, Brion, a place of Gaul, situate, according to the Theodorean table, between Aedonacum and Raurasia, in the route which leads from Mediolanum to Liminum in Aquitania Secunda.

BRIGINTINS, or BRIDGINTINS, more properly BRIGINTINS, a religious order denominated from their foundress St. Bridget, or Birgit, a Swedish lady, in the fourteenth century, whom some represent as a queen; but Beatrice, on better grounds, as a princess, the daughter of the king Bigerus, legislator of Upland: she is famous for her revelations. The Brigintins are sometimes also called "Order of our Saviour," but being pretended that Christ himself dictated the rules and constitutions observed by them to St. Bridget. In the main, the rule is that of St. Augustin; only with certain additions supposed to have been revealed by Christ; whence they also denominate it the "Rule of our Saviour." The first monastery of the Brigintin order was erected by the foundress, about the year 1345, in the diocese of Limoges; on the model of which all the rest were formed. The Brigintins profess great mortification, poverty, and self-denial, as well as devotion; and they are not to possess any thing they can call their own, nor too much as a halfpenny, nor even to touch money on any account. This order spread much through Sweden, Germany, the Netherlands, &c. In England we read but of one monastery of Brigintins, and this built by Henry V. in 1415, opposite to Richmond, now called Sion-house; the ancient inhabitants of which, since the dilapidation, are settled at Lisbon. The revenues were reckoned at 1643, per annum.

BRIGNE, in Ichthyology, a name given by the French fishermen to the Perca fluviatilis of Limousin. Lacercpe retains this fish in his natural history, under the name of Centrhaus Carp.

BRIGNAI8, in Geography, a town of France, in the department of the Rhone and Loire; 2 leagues S. of Lyons.

BRIGNEUL, in France, a town in the department of the Charente, and district of Confolens; 3 leagues E. of Confolens.

BRIGNOLA, a town in Italy, in the state of Genoa; 23 miles N. E. of Genoa.

BRIGNOLLES, a town of France, and chief place of a district, in the department of the Var, leazed among mountains, in a fertile country, and celebrated for its fruit, and particularly its plums, which take their denomination from it; 6 leagues N. of Toulon. The town contains 5460, and the canton 12,114 inhabitants: the extent of the territory comprehends 160 kilometres, and 6 communes. N. lat. 45° 25', E. long. 6° 15'.

BRIGUS, in Ancient Geography, a river of Ireland, mentioned by Ptolemey, supposed to be the main channel of the rivers Suir, Nore, and Barrow, which unite below the towns of Kins and Waterford. Collect. de Rebus Hibern. Brians, Cape and Bay, lie in the bay of Capetown, on the coast of Newfoundland. The cape is high and rugged, and the bay narrow and deep.

BRIHUEGA, in Geography, a town of Spain, in New Castile, seated on the river Tajuca, the principal commerce of which consists in wool. This town was taken possession of in 1710, by general Standhope, with the English army, in behalf of the archduke Charles; was besieged by the duke of Vendome in favour of Philip, king of Spain, and its garrison were obliged to surrender as prisoners of war. It is distant 43 miles E. N. E. from Madrid. N. lat. 41° 0', W. long. 3° 20'.

BRILL, Matthew, in Biography, a painter of landscape and history, was born at Antwerp, in 1550, and having acquired the rudiments of his art in that city, went to Rome for further improvement; where he acquired such reputation as to be employed by Gregory XIII. in the Vatican, and pensioned till his death in 1584.

BRIL, Paul, brother to the preceding, a painter of landscapes, was born at Antwerp, in 1534, and educated in the art of painting, under Daniel Voetmausch. After his removal to Rome, where he saw the works of Titian and Caracci,
Caracci, he wholly abandoned his Flemish stiff manner, and acquired a more pleasing style, and a charming tone of colour. He succeeded his brother Matthew, both in his employment and genius, but far excelled him in the exercise of his art. The figures in his landscapes were generally painted by Andrew Caracci; and by this circumstance their value was greatly enhanced. His manner of painting is represented as true, sweet, and tender; the touchings of his trees as firm, but delicate; his scenery, situations, and distances are admirable, being commonly taken from nature; and the maffles of his light and shadow as strong, yet, very judicious. In the latter part of life, his landscapes were always both beautiful and exquisitely finished. They were frequently painted on copper. The genuine works of Bril, especially those of the large size, are rare, and afford very high prices in every part of Europe. Within a few years one of his landscapes sold in Holland for 16.5L, and another at an auction in London for more than 120 guineas; and they were thought to be cheap. He etched several landscapes in a masterly, spirited style. This master died in 1626. Pilkington and Strutt.

BRILESUS, in Ancient Geography, a mountain of Greece in Attica. BRill, in Geography. See Briel.

BRILLAC, a town of France, in the department of the Charente; 5 miles N. of Confolens. BRILLIANT, in a general sense, something that has a lucid and bright appearance. BRILLIANT, in the Moneg, is applied to a horse, that is brisk, high-tempered, and fleetly, with an elevated neck, fine movements, and excellent branches, upon which he rears, though ever so little put forward.

BRILLIANTE, Ital. Mufci, spirited, animated, with fire. BRILLIANTS, a name given to diamonds, of the finest water. See DIAMOND.

BRILON, in Geography, a town of Germany, in the circle of the Lower Rhine, and capital of the duchy of Westphalia; having calamine in its neighbourhood; 60 miles E. N. E. of Cologne.

BRIM, the utmost edge of a thing, as of a glass, plate, or the like. The brims of vellums are made to project a little over, to hinder liquors, in pouring out, from running down the side of the vellum. The trimming, or brimming of vellums, was contrived by the ancient potters; in imitation of the supercilium or drip of the cornices of columns; it is done by turning over some of the double matter when the work on the wheel.

Among florists, the brim of a flower denotes the outward edge of the petals, or that part thereof which turns.

A fow is said to brim, or go to brim, when he takes the boar.

The hart goes to rout, the roe to tourn, the boar to brim.

BRIMBATUS, in Natural History, one of the synonyms of Holothuria penalis, which bee.

BRIMENIUM, in Ancient Geography. See BREMEN.

BRIMFIELD, in Geography, a township of America, in the county of Hampshire, and state of the Massachusetts, situated E. of Connecticut river, and containing 1211 inhabitants; 34 miles S. E. of Northampton, and 75 W. of Bolton.

BRIMOND, in Ornithology, one of the synonyms of Anas histriònica; or Harlequin Duck.

BRIMSTONE, a common appellation of sulphur.

BRIMSTONE, flower of. See FLOWER.

BRIMSTONE marble, a preparation of brimstone, in imitation of marble.

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BRIMSTONE medals, figures, &c. may be cast in the following manner: melt half a pound of brimstone over a gentle fire; with this mix half a pound of fine vermilion, and when you have cleared the top, take it off the fire, stir it well together, and it will dissolve like oil; then cast it into the mould, which must first be anointed with oil. When cool, the figure may be taken out; and, in case it should change to a yellowish colour, you need only wipe it over with aqua fortis, and it will look like the finest coral.

BRIN BLANC, Buffon, in Ornithology, trochilus superciliosus, the supercilious humming-bird.

BRINDISI, or BRUNDUSIUM, in Geography, a celebrated city of Naples, in the Terra d'Otranto, situated at the entrance of the Adriatic. It was anciently large and flourishing; and may still be considered as a great city, if the extent of its walls be considered; but the inhabited housetops do not occupy above half the cloisters. The streets are crooked and rough, the buildings are poor and ruinous, and it has no very remarkable church or edifice. It is, however, an archbishop's see, but the cathedral, dedicated to St. Theodore, though a work of King Roger, is inferior in point of architecture to many churches founded by that monarch. Of ancient Brundusium, the remains are merely numerous broken pillars, fragments of coarse Mosaic, the columns of the light-house, a large marble bason receiving the water from basoned heads of deer, some inscriptions, ruins of aqueducts, coins, and other small articles for furnishing the cabinet of an antiquary. Its castle, built by the emperor Frederick II. to protect the northern branch of the harbour, and repaired by Charles v. is large and lofty. The port is double, and is the finest in the Adriatic. The outer part is formed of two promontories, that separate gradually as they advance into the sea, leaving a narrow channel at the base of the angle. The island of St. Andrew, on which Alphonso I. built a fortress, lies between the capes, and secures the whole road from the fury of the waves. In this triangular space, large ships may ride at anchor. At the bottom of the bay the hills recede in a semi-circular shape, and thus leave room for the inner haven, which encircles the city in the figure of a flag's head and horns, and is supposed to have given rise to the name of Brundusium; which, in the old Messapian language, signified the head of a deer. This interior port is peculiarly beautiful, and admirably adapted to every purpose of trade and navigation. It is very deep, extending in length 24 miles, and in its greatest breadth 1200 feet, and is sheltered on every side by the hills and town. In ancient times, the communication between the two havens was marked by lights placed upon columns of the Corinthian order; but of these only one remains entire upon its pedestal. It is of the green and white marble, called "Cipollino," and its capital is adorned with figures of Syrens and Tritons, intermingled with the Acanthus leaf, and upon it is a circular vase, which formerly held the fire. Near it is another pedestal of similar dimensions, with one piece of the shaft lying upon it, but the rest of the column was sold to the people of Lecce, after the earthquake of 1456, which overturned it, and destroyed great part of the city. The interval between these pillars corresponded to the entrance of the harbour; which is very favourably situated for trade. Here goodness of soil, depth of water, safety of anchorage, and a centrical position, are all united; and yet it has neither commerce, husbandry, nor populousness. From the obstructions in the channel which communicate with the two havens arise the various evils that defoliate this dilapidated town. Julius Caesar began its ruin by his attempt to block up
up Pompey’s fleet, by driving piles into the neck of land between the two ridges of hills, and throwing in earth, trees, and ruins of houses; however, Pompey failed and escaped to Greece. In the 17th century, the prince of Taranto sent four ships in the middle of the harbour, to prevent the requisites from entering the port; and they occasioned a devastation of land and sea-works, which cleared up the mouth and rendered it impassable. In 1732, the evil was repaired; and from that period the port became a fastidiously green lake, full of infection and noxious insects; so that no fish but eels could live in it, nor any bird but the canoe made of a single tree. The low grounds at each end were over-flowed with marshes, which produced annually a grievous pestilence, that destroyed or drove away the largest portion of the inhabitants. From 14,000 they were reduced in 1765 to 3,200 lead wretches, tormented with agues and malignant fevers; and in 1775, above 2,000 perished during the autumn. Whereas 50 years before the air of Brindisi was esteemed so wholesome and balsamic, that the convents of Naples were accustomed to send their confusant friars to this city for the recovery of their health. It was at length determined to make some efforts for opening the port again, and plans were drawn up for that purpose. By means of machines, and of the labour of galley slaves, the channel has been partly cleared, so as to have two fathoms of water, and to admit large boats and a free passage to the sea; and thus the water of the inner port is let in motion, and once more rendered wholesome. The plan, however, was found, in 1739, to fail of complete success, and the canal was again in a great measure choked up, so that the pellicent air prevailed as much as ever. But attempts have been renewed for cleaning it again, and opening a passage to the waters, and draining the adjacent marshes; and the inhabitants of Brindisi had a return of health, and are happy in the prospect of returning commerce and opulence. In cleaning the channel, the workmen have found some medals and seals; and they have drawn up many of the piles that were driven in by Caesar, which are small oaks stripped of their bark, and are found as fresh as if they had been felled only a month, though buried above 13 centuries seven feet under the sand.

The soil about the town is light and good, and produces excellent cotton, with which the Brindisians manufacture gloves and stockings.

It is not easy to ascertain who founded Brundusium, and who were its first inhabitants. Strabo says that it was originally occupied by the Cretans, who landed here from Gnoitus with Thesis. Others say that it was founded by the Japyges. The Romans took early possession of a harbour so convenient for their enterprizes against the nations dwelling beyond the Adriatic. They sent a colony hither, A. U. C. 509. Pompey sought an asylum in this city, and from thence fled to Greece. Here Cretians first assumed the name of Castrum, and he concluded one of his short-lived treaties of peace with Antony. Brundusium was celebrated as the birth-place of the tragic poet Pausias, and became remarkable for the death of Virgil. The barbarians, who ravaged every corner of Italy, did not spare so rich a town; and in 876, the Saracens gave a finishing blow to its fortunes. The Greek emperors were desirous of redressing it to its ancient strength and splendour, if the Normans had allowed them opportunity; but after obstinate struggles, and varieties of successes and defeats, they were finally expelled Brindisi by William I. The crucifaces, which drained other kingdoms of their wealth and subjucks, contributed to enrich and establish this city; as it was one of the ports where pilgrims and warriors took shipping. It was also benefited by the residence of the emperor Frederick, whole frequent armaments for the holy land required his presence at this place of noceous. At length the losses of Jerusalem, the fall of the Great Mamluk empire, and the ruin of the Venetian trade, after the Turks had conquered the coast, reduced Brindisi to a state of inactivity and desolation, from which it has never been able to emerge. N. lat. 45° 52'. E. long. 18° 3'. Swinburne’s Travels into the Two Sicilies, vol. ii.

BRINDLIE, James, in Biography, a person of extraordinary genius for mechanical inventions, and distinguished by his skill in planning and conducting inland navigation, was born at Tuxford, in the parish of Woolsthorpe, and county of Derby, in the year 1716. His parents possessed a small freehold, the income of which his father divided by field divisions, and by associating with fervours above his rank; and thus the education of the son was wholly neglected. Urged by the necessities of his family, he contributed to its support till he was nearly 17 years of age, by that kind of labour which, in country places, is assigned to the children of the poor; but at this age he bound himself apprentice to a wheelwright, whose name was Bennet, near Macclesfield in Cheshire, and soon became expert in his business, discovering, at the same time, a singular genius for the extension and improvement of the mechanic arts in general. Accordingly, in the early period of his apprenticeship, he performed several parts of the business without any instructions from his master, and gave so much satisfaction to the millers who employed him, that he was always consulted in preference to his master or any other workman; and before the expiration of his servitude, when Mr. Bennet, by his age and infirmities, became unable to work, he carried on the business with reputation, and provided a comfortable subsistence for the old man and his family. About this time his master was employed in constructing an engine paper-mill, the first of the kind that had been attempted in these parts; but as he was likely to fail in the execution of it, Mr. Brindley, without communicating his design, set out on Saturday evening after the business of the day was finished, and having inspected the work, returned home on Monday morning, after a journey of 50 miles, informed his master of its defects, and completed the engine to the entire satisfaction of the proprietors. Mr. Brindley afterwards engaged in the millwright business on his own account, and soon acquired the reputation of a most ingenious mechanic. The fame of his inventions and contrivances was in a little while spread far beyond his own neighbourhood; and in 1755, he was employed to erect a curious water-engine at Clifton in Lancashire, for the purpose of draining coal-mines, which had before been performed at an enormous expense. The water for the use of this engine was conveyed from the river Irwell by a subterraneous channel, nearly 600 yards long, which passed through a rock; and the wheel was fixed 30 feet below the surface of the ground. In 1755, he constructed a new mill at Congleton in Cheshire, according to the plan proposed by the proprietors, after the execution of it by the original undertaker had failed; and in the completion of it he added many new and useful improvements. He introduced one contrivance for winding the flax upon the bobbins equally, and not in wethed; and another for flapping, in an instant, not only the whole of this extensive flaxen, in all its various movements, but any individual part of it at pleasure. He likewise invented machines for cutting the tooth and pinion wheels of the different engines, in a manner that produced a great saving of time, labour, and expense. He also introduced into the mills, used at the potteries in Staffordshire for grinding flint-flours, several valuable additions, which greatly facilitated the operation. In 1756, he constructed
fructified a steam engine at Newcastle upon a new plan, which vivified his genius for invention and contrivance. The boiler was made with brick and stone, instead of iron plates, and the water was heated by fire-places, so constructed as to save the consumption of fuel. He also introduced cylinders of wood instead of those of iron, and he substituted wood for iron in the chains which worked at the end of the beam. But in these and similar contrivances for the improvement of this useful engine, he was obstructed by interested engineers; and his attention was diverted from the prosecution of them by the great national object of “Inland Navigation.” In planning and executing canals his mechanical genius found ample scope for exercise, and formed a sort of distinguishing era in the history of our country. However, envy and prejudice, and an attachment to established customs, raised a variety of obstacles to the accomplishment of his designs and undertakings; and if he had not been liberally and powerfully protected by the duke of Bridgewater, at the commencement of the privileges, his triumph over the opposition with which he encountered must have been in a very considerable degree obstructed and retarded. The noble duke possessed an estate at Worsley, about 7 miles from Manchester, rich in mines of coal, from which he derived little or no advantage, on account of the expence which attended the conveyance of this article by land carriage to a suitable market for consumption. Fully apprized of the utility of a canal from Worsley to Manchester, he consulted Mr. Brindley on the subject; who, having surveyed the country, declared the scheme to be practicable. Accordingly, his grace obtained, in the years 1753 and 1759, an act of parliament for this purpose; and Mr. Brindley was employed in the conduct and execution of the undertaking, the first of the kind ever attempted in England, with navigable subterranean tunnels and elevated aqueducts. At the commencement of the canals it was determined, that the level of the water should be preferred without the usual obstructions of locks. But in accomplishing this object, many difficulties occurred; and it was soon found that it would be necessary to carry the canal over rivers and many deep valleys, and that it would not be easy to obtain a sufficient supply of water for completing the navigation. However, Mr. Brindley, patronized by the duke, and furnished with ample means of subvention, persevered, and at length conquered all the embarrassments, occasioned by the nature of the undertaking, and by the passions and prejudices of individuals. Having completed the canal as far as Barton, where the river Irwell is navigable for large vessels, he proposed to carry it over that river, by an aqueduct 37 feet above the surface of the water. This was considered as a chimerical and extravagant project; and an eminent engineer, who was consulted on the occasion, ridiculed the attempt. “I have often heard,” says he, “of cats in the air, but never before was flown where any of them were to be erected.” The duke of Bridgewater was not discouraged; but confiding in the judgment of Mr. Brindley, empowered him to proceed with the work; and in about 10 months the aqueduct was completed. This admirable work commenced in September 1760, and the first boat sailed over it the 17th of July, 1761. The canal was then extended to Manchester, where Mr. Brindley’s ingenuity in diminishing labour by mechanical contrivances was exhibited in a machine for landing coals upon the top of a hill. It is no wonder, that an object, so curious in itself, and of such national importance, should have attracted general attention. See CANAL.

The duke of Bridgewater, having found by experience the utility of these inland navigations, extended his views to Liverpool; and obtained, in 1762, an act of parliament for branching his canal to the tide-way in the Mersey. This part is carried over the river Mersey and Bollan, and over many wide and deep valleys. Over the valleys it is conducted without a single lock; and across the valley at Stretford, through which the Mersey runs, a mound of earth, raised for preserving the water, extends nearly a mile. In the construction of this mound Mr. Brindley displayed his mechanical genius, by rendering the canal itself subservient to his design, and by bringing the foil, necessary for his purpose, along the canal in boats of a peculiar form, which were conducted into caissons or cisterns; so that on opening the bottom of the boats, the earth was deposited where it was wanted, and the valley was thus elevated to a proper level for continuing the canal. Across the Bollan the ground was raised by temporary locks, formed of the timber used in the construction of the caissons just mentioned. In the execution of every part of the navigation, Mr. Brindley displayed singular skill and ingenuity; and in order to facilitate his purpose, he produced many valuable machines. His economy and forecast, in every part of the work, deserve to be particularly noticed, and they are peculiarly discernible in the locks, or flood-gates, that are fixed in the canal, where it is above the level of the land. These locks are so constructed, that if any of the banks should give way and occasion a current, the adjoining gates will rise merely by that motion, and prevent any other part of the water from escaping, besides that which is near the breach between the two gates.

Encouraged by the success of the duke of Bridgewater’s undertakings, a subscription was entered into by a number of gentlemen and manufacturers in Staffordshire, for constructing a canal through that country, in pursuance of a scheme which had been suggested some years before; and Mr. Brindley was engaged to make a survey from the Trent to the Mersey. Upon his report that a canal for connecting these rivers was practicable, application was made to parliament, in 1755, for an act to this purpose, which was obtained in the same year. Accordingly, in 1763, this canal, “The Grand Trunk Navigation,” was begun; and it was conducted, with great spirit and success, under the direction of Mr. Brindley, as long as he lived. For a further account of this canal, see CANAL.

The next object which engaged the attention of Mr. Brindley was the construction of a canal from the Grand Trunk, near Haywood in Staffordshire, to the river Severn near Bewdley, by means of which the port of Bristol was connected with the ports of Liverpool and Hull. This canal, about 46 miles in length, was completed in 1772. His next undertaking was the survey and execution of a canal from Birmingham, which should unite with the Staffordshire and Worcestershire canal near Wolverhampton. This navigation, which is 26 miles in length, was finished in about three years. Our engineer advised the proprietors, in order to avoid the inconvenience of locks, and for the more effectual supply of the canal with water, to have a tunnel at Smethwick; but his advice was disregarded; and the managers have since been under a necessity of erecting two steam-engines. The canal from Droitwich to the river Severn, for the conveyance of salt and coals, was executed by Mr. Brindley; and he also planned the Coventry navigation, which was for some time under his direction; but a dispute arising about the mode of executing it, he resigned his office. Some short time before his death, he began the Oxfordshire canal, which, uniting with the Coventry canal, serves as a continuation of the Grand Trunk navigation to Oxford, and thence by the Thames to London. The last undertaking, in which Mr. Brindley engaged, was the canal from Cheddlefield to the river Trent at Stockwith. He was interred.
ferryed and planned the whole, and executed some miles of the navigation, which was finished by his brother-in-law, Mr. Henhall, in 1772. Such was the established reputation of Mr. Brindley, that he was consulted on a variety of occasions; and, indeed, few works of this kind were undertaken without his advice.

He was employed by the city of London, to survey a course for a canal from Hungerford, near Reading in Berkshire, to Monkey Island, near Richmond; but, on account of the opposition of the land-owners, this plan was defeated. He had also, for some time, the direction of the Calder navigation; but, on account of a difference among the commissioners, he declined any further concern in it. In 1766, he laid out a canal from the river Calder, at Cooper’s bridge, to Huddersfield in Yorkshire, which has since been executed. In 1768, he revised the plan for the inland navigation from Leeds to Liverpool; but, though he was appointed engineer for conducting the works, his other engagements obliged him to decline this employment. In the same year, he planned a canal from Stockton, to Darlington, to Wmilton, in the bishopric of Durham. Three plans of the like kind were formed by him in 1769; one from Leeds to Selby; another from the Bristol channel, near Uphill in Somersetshire, to Glattonbury, Taunton, Welling- ton, Tiverton, and Exeter; and a third from Langport, in the county of Somerset, by way of Ilmington, Chard, and Axminster, to the South channel at Axmouth, in the county of Devon. In 1770, he surveyed the country, for a canal from Andover, by way of Stockbridge and Romsey, to Redbridge near Southampton; and, in 1771, from Salisbury, by Fordingbridge and Ringwood, to Christchurch. In 1772 he performed the same office, for a similar navigation from Preston to Lancaster, and from thence to Kendal in Westmoreland. He also planned a canal for joining that of the duke of Bridgewater at Runcorn, near Liverpool, in the execution of which scheme he proposed to have constructed an aqueduct over the river Mersey, at a place where the tide flows to the height of 14 feet. He also surveyed the county of Chester, with a view to a canal from the Grand Trunk to the city of Chester. He revised the plan for joining the Forth and Clyde, and proposed some considerable improvements, which were afterwards adopted by the managers. A canal was also laid out by him for unifying that of Chesterfield, by the way of Derby, with the Grand Trunk at Swarkstone. He was also consulted in the various plans for the drainage of the low lands in different parts of Lincolnshire, and the life of Ely. He gave the corporation of Liverpool a plan for clearing their docks of mud, which has been practised with success; and he proposed a method, which has also succeeded, of building walls against the sea without mortar. The vast of his inventions was an improved machine for drawing water out of mines, by a loosing and gaining bucket, which he afterwards employed with advantage in raising coals.

When difficulties occurred in the execution of any of his works, Mr. Brindley had no recourse to books, or to the labours of other persons; but as all his resources were: those of his own inventive mind, he generally retired to bed, and by there one, two, or three days, till he had devised the expedients which he needed for the accomplishment of his objects. He then got up, and executed his design without any drawing or model, which he never used, except for the satisfaction of his employers. His memory was so tenacious, that he could remember and execute all the parts of the most complex machine, provided he had time, in his previous survey, to settle in his mind, the several departments, and their relations to each other. In his calculations of the powers of any machine, he performed the requisite operation by a mental process, in a manner which none knew but himself, and which, perhaps, he was not able to communicate to others; and after certain intervals of consideration, he noted down the result in figures; and then proceeded to operate upon that result, until at length the complete solution was obtained, which was generally right.

Some have said that Mr. Brindley had been so much neglected in early life, as never to have learned to read and write; and it has also been affirmed, that his aspect was that of an idiot, and his language mean, obscure, and almost unintelligible. But neither of these facts is well founded. Although he read little, and wrote less, he had frequent occasion for correspondence with his friends and employers. His countenance was amiable and animated; but as he was unostentatious in his outward appearance, his dress was always plain. His conversation, on occasions of importance, and among his intimate friends, was instructive and interesting; and enlivened by the singular genius, and the benevolent and patriotic spirit, for which he was distinguished, and which gave energy to his pursuits. His want of literature, indeed, compelled him to cultivate, in an extraordinary degree, the art of memory; and in order to facilitate the revival, in his mind, of those visible objects and their properties, to which his attention was chiefly directed, he secluded himself from the external impressions of other objects, in the solitude of his bed. Dr. Wallis, who was eminently distinguished by the tenaciousness of his memory, so that he could extract the cube root of any number to 100 places of figures in his mind, availed himself, for this purpose, of a similar exclusion. Mr. Brindley’s incessant attention to important and interesting objects, precluded him from participating in any of the ordinary amusements of life, and indeed, prevented his deriving them from any pleasure. Accordingly, though he was once prevailed upon by his friends in London to see a play, he found his ideas so much disturbed, and his mind rendered so unfit for business, as to induce him to declare, that he would not on any account go to another. It is not improbable, however, that by indulging an occasional relaxation, remitting his application, and varying his pursuits, his life might have been prolonged, and his usefulness extended. Whereas the multiplicity of his engagements, and the constant attention which he bestowed on them, brought on a hectic fever, which continued, with little or no intermission, for some years, and at last terminated his useful and honourable career on the 27th of September, 1772, in the 56th year of his age, at Tunsborough, in Staffordshire. He was buried at New Chapel, in the same county.

The talents of Mr. Brindley were of a singular kind; and under the patronage of his grace the duke of Bridgewater, they had an opportunity of being unfolded and exercised to their full extent, in the execution of works new to this country, and which will perpetuate his name to future generations. The brief recital which has been given of his stupendous undertakings, will enable the reader to form some judgment of this extraordinary person. Such was the enthusiasm with which he engaged in all schemes of inland navigation, that he seemed (if we may credit reports) to regard all rivers with contempt, when compared with canals. To this purpose, it is said, that in an examination before the house of commons, when he was asked by a member, for what purpose he apprehended rivers were created? he replied, after some deliberation, "to feed navigable canals." As to his private character, those who knew him well, and had an opportunity of conversing familiarly with him, respected him.
him in a high degree “for the uniform and unshaken integrity of his conduct; for his steady attachment to the interests of his community; for the vast compass of his understanding, which seemed to have a natural affinity with all grand objects; and, likewise, for many noble and beneficial designs, constantly generating in his mind, and which the multiplicity of his engagements, and the shortness of his life, prevented him from bringing to maturity.” —Biog. Brit.

BRINDONES, in Botany, a name given to the fruit of the mangoullan of the Cebellus Islands, the Garciana Cebelica of Linnaeus. In the old French Encyclopaedia, it is erroneously conjectured to be a species of Limonium.

BRINE. This term is used technically for a solution in water of common salt, or any saline liquid in which this salt is predominant. Thus the native springs of salt water are called brine-springs; the sea water is termed brine, &c.

Leach, or leech-brine, is the mother water left in the pans during the manufacture of salt, after most of the pure salt has been obtained by boiling down. It consists of mother-of-pearl mixed with the earthy rudiments, and other impurities of natural brine.

For every thing relating to the manufacture of salt from brine, see Muriat of Soda.

Brine also denotes a pickle pregnant with salt, wherein things are steeped to keep.

Brine-pans, the pits wherein the salt-water is retained, and suffered to stand, to bear the action of the sun, whereby it is converted into salt. There are divers kinds of salt-pans, as the water-pan, second-pan, fun-pan; the water being transferred orderly from one to another.

Brine-pit, in Salt-making, the salt spring from whence the water to be boiled into salt is taken. There are of these springs in many places; that at Nampit, in Chichester, is alone sufficient, according to the account of the people of the place, to yield salt for the whole kingdom; but it is under the government of certain lords and regulators, who, that the market may not be overstocked, will not suffer more than a certain quantity of the salt to be made yearly. See Pit.

Brine-salt. See Salt.

Brine-springs. See Salt and Spring.

BRINER, or BRINET, in Aeronomy, the bright star in the constellation Lyra; more frequently called Lucida Lyrae.

BRINGERS-UP, in a battalion, are the whole left rank of men in it, or the hindmost man in every file.

BRINGING-IN a horse, in the Manege, is the keeping down his nose, when he bares, and toffes it up to the wind. A horse is brought-in by a strong hand branch.

BRING-TO, in Seamanship, to check, or retard, the velocity, or rate, of failing of a ship, by arranging the fails in such a manner, that they shall counteract each other, and thereby prevent her either from advancing a-head, or getting in-door manner. In this situation the ship is said to lie-to, or to lie-by. Bringing-to is generally used to detain a ship in any particular latitude, in order to wait the approach of some other vessel that may be advancing towards her; in waiting for a boat from the shore; or, until there be sufficient depth of water to admit the vessel to fall into a safe harbor.

Brig-up, an expression used for coming to an anchor.

Brig by the lee, is when by bad weather, or otherwise, a ship's head moves from the wind, which the bringes successively alter, and then so far round upon that which was formerly the lee side, that the sails are laid aback.

BRINJAN, in Geography, a town of Hindostan, in the country of Bogdana; 12 miles N. N.W. of Nafluk.

BRINJAUN, or BRINJAM, a town in the peninsula of India, in the Travancore country, on the coast of Malabar; 25 miles W. of Travancore. N. lat. 8° 15'. E. long. 75° 5'.

BRINGING OF Grain, in Rural Economy, the practice of immersing it in some sort of liquor or pickle, with the intention of preventing the fum, or other diseases. Steeps, or pickles for this use, are prepared in various ways, and with very different sorts of materials; but chiefly by diluting salina substantia in water, urine, or some other fluid, till they are very strongly impregnated with them. The grain, after having remained in these steeps a sufficient length of time, as six, eight, or ten hours, or more, according to circumstances, and the light part that swams on the surface removed, is taken out and dried by proper draining, and the fitting of a little lime in a fine powdery rate over it. The fowing should be performed as soon as possible after this has been done, as the grain is liable to be fum injured by its being delayed. How far the use of steeps or brining grain may be advantageous, or whether such practices have any other utility than that of hastening the vegetation of the seed after it is committed to the earth, has not yet been well ascertained by experiment. See Steep.

BRINGING OF Hay, the practice of blending salt with hay in the operation of flaxing, in order to preserve it more effectively, and render it more palatable to animals. It is chiefly had recourse to when hay has been much injured by rain in making. The practice is said to prevail in America.

BRINKE, in Geography, a town of Germany, in the circle of Welfphalia, and bishopric of Olmbruck; 16 miles S.E. of Olmbruck.

BRINN. See BRUNN.

BRINON les Allemands, a town of France, in the department of the Nièvre, and chief place of a canton in the district of Clamecy; 10 miles S. of Clamecy. The town contains 314, and the canton 9959 inhabitants; the territory includes 1421 hectares, and 26 communes.

BRONON l'Archépiale, a town of France, in the department of the Yonne, and chief place of a canton, in the district of Joigny; 4 leagues S. of Auxerre. The town contains 2372, and the canton 12395 inhabitants; the territory comprehends 2572 hectares, and 11 communes.

BRINS, a town of Bohemia, in the circle of Boleflau; 3 miles S. S. E. of Gabl.

BRIOCA. See PRIOCA.

BRIOLLAY, a town of France, in the department of the Maine and Loire, and chief place of a canton, in the district of Segré. The place contains 849, and the canton 6143 inhabitants; the territory includes 1425 hectares, and 8 communes.

BRIOR, a town of France, in the department of the Two Sevres, and district of Thouars; 1½ league from Thouars.—Also, a town of France, in the department of the Lozère, and district of Marvejols; 3 leagues W. S. W. of St. Cheyl.

BRO'N island, one of the Magdalene islands, in the gulf of St. Lawrence, 5 or 6 leagues W. from the Bird islands. N. lat. 45° 50'. W. long. 60° 47'.

BRIONNE, a town of France, in the department of the Eure, and chief place of a canton, in the district of Berny, leant on the Ille. 34 leagues N. N. E. of Berny. N. lat. 49° 51'. E. long. 08° 51'.

BRIONNI, a small island in the gulf of Venice, near the coast of Iliria. N. lat. 43° 10'. E. long. 13° 51'.

BRIONY, in Botany. See BRIONIA.

BRIORD, in Geography, a town of France, in the department of the Ain; 10 miles S. of Belley.

BRION-
BRIAS-TOMAIX, a town of France, in the department of the Oise; 13 miles N. of Beauvais.

BRIAC.q., a town of France, and principal place of a district in the department of the Upper Loire, seated on the river Aixe, over which is a bridge of stone, which is regarded as a Roman work. The town contains 7,936, and the district 1,987 inhabitants; the territory comprehends 263 square kilometres, and 19 communes. This is called “Old Briac,” by way of distinction from “New Briac,” which lies also near the river Aixe, in which is a collegiate church, called St. Julian. N. lat. 47° 14’. E. long. 2° 25’.

BRIOUL, a town of France, in the department of the Two Selves, and chief place of a canton, in the district of Melle; 2 leagues S. W. of Melle. The place contains 742, and the canton 9,225 inhabitants; the territory includes 15 square kilometres, and 22 communes.

BRIOUZE, a town of France, in the department of the Oise, and chief place of a canton, in the district of Argentan; 2 leagues W. of Argentan. The town contains 9,173, and the canton 10,750 inhabitants; the territory comprehends 164 square kilometres, and 11 communes.

BRIQUENAY, a town of France, in the department of the Ardennes, and district of Vouziere; 4 miles N. of Grandpré.

BRIQUERAS, a town of Périgord, in the valley of the Ouche; 4 leagues S. of Périgord. N. lat. 44° 41’. E. long. 7° 54’.

BRISACH, or BREYSACH, Old, a town of Germany, formerly the capital of Brisgaw, seated on the Rhine, and partly upon an eminence, which commands the adjacent country. The bridge of boats over the Rhine at this place was demolished four years ago, and the passage altered to a ferry. It was formerly an imperial city, but mortgaged in 1331, by the Emperor Lewis of Bavaria, to Otto duch of Austria, and the mortgage was ratified by Charles V. in 1548. This place had formerly a fort, which was taken by the French in 1688, but restored in 1697, and again taken in 1705, but surrendered in 1715. The fortifications were razed in 1743, by order of Maria Theresa, queen of Hungary and Bohemia, and the town became an open place. N. lat. 48° 51’. E. long. 7° 49’. See BRISGAW.

BRISACH, New, a town of France, in the department of the Upper Rhine, and chief place of a canton, in the district of Colmar, about a mile from the west side of the Rhine, and opposite to the old town. It was built by Lewis XIV, and fortified by M. Vauban; it stands entirely upon the plain, and its fortresses are so regular that in the great market all the gates of the town are to be seen. The town contains 1,283, and the canton 7,915 inhabitants; the territory comprehends 170 square kilometres, and 16 communes. The road from this place to Bale, 9 leagues N. distant from it, is very pleasant, and commands a prospect on the left bank beyond the Rhine into the marshy ground of Baden. N. lat. 48° 3’. E. long. 7° 26’.

BRISAGA, a town of the Milanese, seated on the borders of the Italian bailiages, and near the wet bank of the Lago Maggiore or lake of Locarno, and 5 miles S. of Locarno. N. lat. 45° 55’. E. long. 7° 31’.

BRISAIU, or BIZAIJOVA, a town of Moravia, in the circle of Olmuzt, 6 miles S. of Zivitau.

BRISBANE, John, in Biography, originally of Kelso, in Scotland, practised medicine several years, towards the end of the last century in London, and published in 1709, “Anatomy of Painting, or a short and easy Introduction to Anatomy, consisting of tables of Albinus, with linear figures on a smaller scale, including Albinus’s figures of the Utensils,” fol. London. Also “Felic’s Cakes in the Practice of Medicine,” 8vo. 1772, London. Among these, are interpolated some useful practical observations. Haller. Eihl.

BRISÉ, in French Arrows, signifies broken, and implies an ordinary with part of it broken off. The English bush it with the word coupled.

BRISÉIS, in Entomology, a species of Papilio, the wings of which are dentate, brown, and glossed with shining green; on the anterior wings two occluded spots, and a white band; two black spots beneath. Inhabits Germany. Linna. Fabr. &c.—This is Papilio Jeanbo of Pallas.

BRISÉIS, in Fabulous History, the wife of Myns king of Lythessa, who was taken captive by Aéchilus, after he had taken the city and killed her husband. But when Agamemnon robbed him of this object of his ardent affection, he became the accidental cause of immeasurable disorders in the Grecian army. Aéchilus, enraged, retired to his tent; and till the death of Patroclus refused to fight against the Trojans.

BRISELLO, in Geography. See BERSELLO.

BRISGAV, a district of Germany, in the circle of Suabia, situated on the east side of the Rhine, by which it is separated from France; a portion of it was formerly possessed by the marquis of Baden, and the principal part belonged to the house of Austria; but by the 18th article of the treaty of Campo Formio in 1797, confirmed by the 4th article of the treaty of Lunéville, in 1801, his majesty the emperor, king of Hungary and Bohemia, bound himself to cede the duke of Modena, as an indemnification for the territory which that prince and his heirs possessed in Italy, the Brisgav; which he is to possess upon the same conditions as those, in virtue of which he possessed the Modena.

BRISIACUS, Mons, in Ancient Geography, a town on the right or east side of the Rhine, now Old Brisach.

BRISCH, or BREYSICH, a town of Germany, in the circle of Wellphalia, and duchy of Jülicher; 16 miles N. N. W. of Coblenz.

BRISGUELA, a town of Italy, in the province of Romagna, belonging to the state of the church; 6 miles from Faveza.

BRISTINO, a town of Naples, in the province of Capitanata; 11 miles S. S. W. of Monfredana.

BKISK, a town of Germany, in the circle of Upper Saxony, and Uckermark of Brandenburg; 8 miles S.S.W. of Beetkow.

BRISKET, in the Manege, that part of a horse extended from the shoulders to the bottom of the chest.

BRISKOW, a town of Germany, in the circle of Upper Saxony, and Middle Mark of Brandenburg; 4 miles S. of Frankfort on the Oder.

BRISSAC, a town of France, in the department of the Maine and Loire, and district of Angers; 28 leagues S.S.E. of Angers.

BRISSEAU, Peter, in Biography, after receiving his degree of doctor in medicine, at Montpellier, went to Paris, where he acquired considerable reputation by his practice. In 1677, he was admitted of the college of physicians at Tournay. He was soon after appointed by Lewis XIV, physician to the military hospitals at Tournay and Mons; and on Tournay’s being taken by the allies in 1709, he removed to Doway, where he died September 10th, 1717, aged 86 years. Brisseau was author of several works; but what acquired him
him most credit, was his " Nouvelles Observations sur la Cataracte," Tournay, 1706, 12mo. continued in 1707, by "Suite des Observations sur la Cataracte." He was the first who demonstrated, that the cataract is a disease of the crystalline lens. Lapicet, and Quarré, who held the same opinion, had not deflected any eyes, affected with the disease, or published anything upon the subject; nevertheless, the College of Surgeons at Paris refused to give Brillat the credit of the discovery. "Observations faites par M. B.," 12mo. 1706. There are all on surgical subjects. He enroil a folder of a wound in the skull, through which a portion of brain had escaped. Two earlier publications by him were "Dissertations on Bleeding," and "Sympathetic Motions." Haller. Bib. Med. et Chirurg.

Brisseau, Michael, son of Peter, and born at Tournay, was admitted member of the college of physicians there in 1716. He then removed to Doway, where he was made first professor in medicine, and physician to the military hospital. He wrote five chirurgical observations, which are printed with Palfins' works in surgery and anatomy. Haller. Bib. Anat. Elyit. Hist.

Brissoïdes, in Natural History. See Echinus.

Brisson, Barnabas, in Biography, an eminent French lawyer and man of letters, was the descendant of a respectable family at Fontenai-le-Comté, in Poitou, and entered at the bar of the parliament at Paris. His reputation was such, that Henry III. advanced him to several honourable offices, and in 1580, to the post of president à mortier; and succeeding very highly of his talents and learning, employed him in various negotiations, and sent him as his ambassador to England. Upon his return he commissioned him to make a collection of all his own ordinances, and those of his predecessors, which he completed with great expedition. The principal of his other learned works are: "De Verborum, que ad jus pertinent, Significatione," fol.; "De Formulis et Scolanibus Populi Romani Verbis," fol. Paris, 1583., a work of authority and frequently cited; "De Regio Perferam Principatu," 1580, frequently printed, and last at Strasburg, in 1710, with the notes of Sylvain and Lederlin; "De Jure Commissariorum Liber Singularius," Paris, 1570, 1574; "Opera Varia," 4to. 1686. The termination of Brillat's life was disastrous; for having continued at Paris, during its siege by Henry IV. in 1589, he was compelled by the league to assume the place of first president of the parliament, instead of Achilles de Harlay, then a prisoner in the Bastille. In consequence of his official conduct, the faction of sixteen brought an accestation against him and some others, members of the parliament; and he was hanged in November, 1591. Several persons were afterwards punished for the concern they had in his death. His public principles are variously represented; some extolling him as a good citizen, others representing him as a man of ambition, who fell a victim to his desire of rising to consequence by means of faction. Nouv. Dict. Hist.

Brisson, St., in Geography, a town of France, in the department of the Loiret, and district of Gica; 4 miles S. of Gien.

Brisot, Peter, in Biography, was born at Fontenai le Comté, in the year 1745, and made doctor in medicine at Paris, in 1754. He then went to Lisbon, where he was soon distinguished for his superior learning, and ability in his profession. As he read the Greek fathers in medicine, in their original language, he was very free in his confutes on the Arabian writers, who had formulated, and disfigured the Greek text, as to make it extremely difficult to discover the authors' opinions, in their translations. This freedom excited the indignation of the followers of the Arabians, which blazed out with great fury, on Brilh's publishing, in 1755, "De Vena secunda tum in pleuritide, tum in utraque inflammaturibus, libellus apologeticus," Paris, 4to. As he maintained, in this work, that blood might be drawn from the side affected in pleurisy, which was contrary to the then prevailing opinion, he was considered an innovator, and treated as a man holding heretical opinions. The work was reprinted in 1756, with some additions by the author, and in 1757, by R. Morceau, with other pieces on the same subject. Haller. Bib. Med.

Brisot, James-Peter, one of the principal agents in the late French revolution, and head of a party distinguished by his name, was the son of a "traitor," or matter of an eating-house, and born in 1754 at Chartres, in the Orléanais. The circumstances of his father enabled him to give his children a good education; and James Peter was destined for the bar. But having served five years as a clerk, with a view to the profession of the law, he abandoned the profession of it with disgust, and determined to devote himself to literature and the sciences. At this time, he formed an acquaintance with some English travellers, learned their language, and perused some English books; and to these circumstances he attributes the character and fortune of his future life. Attached, as he professes himself to have been, to the language and customs of England, he changed the application of "de Querville," which he derived from that of a village where his father possessed some landed property, designed for him, into "de Warville," after the English orthography; and he is thus denominated in his writings. As he had incurred his father's displeasure by relinquishing the profession of the law, his resources failed him; and he was indebted to the bounty of his friends for those supplies, which enabled him to prosecute his studies at Paris, which he continued to do for two years. At the close of this period, he entered into an engagement with the proprietor of a popular paper, entitled "Le Courier de l'Europe," and printed at Bonnogne, which was committed to his superintendence. When this paper was discontinued by the interference of government, Brillot returned to Paris; and soon after, viz. in 1780 and 1781, he assumed, in a more direct and regular manner than he had hitherto done, the profession of an author. Revolting, as he says, from the instant in which he began to reflect, against religious and political tyranny, he determined to devote his whole life to the extirpation, both of the one and the other; but as the former had fallen under the reiterated strokes of Roufleat, Voltaire, Diderot, and d'Alenbert, he had the vanity to think, that the demolition of the latter was an honour reserved for himself. In this work, he seems to have engaged with principles and views, resembling those of his predecessors; and that his intention might not be misunderstood, he avows his purpose to destroy that political idol, which, under the name of "Monarchy," practised the most violent despotism; and, in order the more effectually to accomplish his aim, he began with an attack on certain abuses in government, which needed reformation, and which, with judgment and moderation, might have been corrected, without destroying government itself. Accordingly, he began with directing the attention of his countrymen to the subject of criminal jurisprudence; and, with this view, he published, in 1780, his "Theory of criminal Laws," in 2 vols. 4to., which was soon followed by two discourses on collateral subjects, which gained the prize in 1782 at the academy of Chalons-sur-Marne. He also began a work, which was afterwards completed in 10 vols., entitled "A Philosophical Library of the criminal Laws," and he published a volume "Concerning Truth," and "Thoughts on the Means of attaining Truth in all the Brancas."
Branches of human Knowledge," which he intended, merely as an introduction to a work on a more enlarged and comprehensive plan. During the progress of these political and literary labours, to which, with the confidence of youth, he had annexed ideas of singular importance and utility, although his notions were crude, and his knowledge superficial, he prosecuted the study of several modern languages, and gained an acquaintance with the rudiments of various sciences.

Briffot, at the period of his residence at Boulogne, had been introduced to mademoiselle Dupont, who was employed under mad. de Genlis as reader to the daughter of the duke of Orleans, and whose mother kept a lodging house in that place: and having married this lady, whom mad. Roland extols as a pattern of every domestic virtue, he found it necessary to exert his literary talents for gaining a subsistence. But as France did not afford that unrestrained liberty, which as an author he wished to indulge, he formed a design of printing, in Switzerland or Germany, a series of works in a kind of periodical publication, under the title of "An universal Correspondence on Points intereting the Welfare of Man and of Society," which he proposed to manage into France. With this view, he visited Geneva and Neuchatel, in order to establish correspondences; and he also made a journey to London, which was to be the central point of the establishment, and the fixed residence of the writers. His intentions, however, were divulged by the treachery of one of his confidential associates: and the scheme, romantic in itself, whatever the judicious and candid may think of its ultimate design and tendency, totally failed. During his absence in London, he concerted the plan of a periodical work or journal, on the literature, arts, and politics of England, which, being published in London, was allowed to be reprinted at Paris, and first appeared in 1784. The avowed object of this publication, as he himself declares, was "the universal emancipation of men." In London, he was arrested for debt; but being liberate by the generosity of a friend, he returned to Paris, where he was committed to the baillou, in July 1784, on the charge of being concerned with the marquis Pelleport in a very obnoxious publication. But by the intercession of the duke of Orleans, obtained by mad. Genlis at the intercession of his wife, he was released, on condition of never residing in England, and discontinuing his political correspondence. In 1785, he published two letters to the emperor Joseph II. "Concerning the Right of Emigration, and the Right of the People to revolt," which he applied particularly to the cause of the Walachians: and, in the following year, appeared his "Philosophical Letters on the History of England," in 2 vols. and "A critical Examination of the Travels of the Marquis de Chatelet in North America." With a view of promoting a close, political, and commercial union between France and the United States, he wrote in 1787, with the assistance of Claviere, a tract, entitled "De la France et des Etats Unis, &c." "On France and the United States; or on the Importance of the American Revolution, to the Kingdom of France, and the reciprocal Advantages which will accrue from a commercial Intercourse between the two Nations." Of this work, an English translation was published, both in England and America. At this time, he was in the service of the duke of Orleans, as secretary to his chancery, with a handsome salary, and apartments in the palais royal; and, without doubt, employed in aiding his schemes of ambition. In this situation, he wrote a pamphlet against the administration of the archbishop of Sens, entitled "No Bankruptcy, &c." which occasioned the issuing of a lettre de cachet against him. But to avoid its effect, he went to Holland, England, and the Low Countries; and at Mechlin, he edited a newspaper, called "Le Courier Belgique." For the purpose of promoting the views of a society at Paris, denominated "Les Amis des Noirs," and established for the purpose of abolishing negro slavery, he embarked for America in 1788; and, during his residence in that country, he fought for a convenient situation, in which a colony of Frenchmen might be organized into a republic, according to his ideas of political liberty. But his return was hailed in 1789 by the intelligence he received of the progress of the French revolution; after his arrival, he published his "Travels in America," (Nouveau Voyage dans les Etats Unis, &c. 3 vols. 8vo. Paris, 1791.) and as he found the attention of the public directed to the approaching assembly of the States-General, he wrote his "Plan of Conduct for the Deputies of the People." At this time, he had withdrawn from the partisans of the duke of Orleans; and he took an active part in the plans that were then projected for the organization of the people, with a view to their union and energy in accomplishing the revolution. To the lodgings of Briffot, as a person who was held in estimation at this period, the keys of the baillou, when it was taken, were conveyed; he also became president of the Jacobin club; and he distinguished himself in various ways as a zealous promoter of those revolutionary principles, which, afterwards, gave occasion to a great number of atrocious excesses. After the king's flight to Varennes, Briffot openly supported the republican cause; nor does there seem to be sufficient reason for supposing, that he was secretly concerned in the plot for raising the duke of Orleans to the throne. But as some form of monarchy was still the object of the national will, he was obliged to refrain his impetuosity. The popularity acquired by his writings, and conduct, was such, as to induce the Parliaments to return him as one of their members in the "Legislative national assembly," which succeeded the "Constituent Assembly" in October 1791, of which assembly he was appointed secretary; and he became afterwards a member of the committee of public instruction. Although inferior to many others in talents and knowledge, his activity raised him to the rank of head or chief, in the party denominated "Girondins" or "La Gironde," the name of the department to which several of its members belonged, and also from his own name "Briffotins." In his career of ambition, he does not seem to have been influenced by pecuniary considerations; power, more than wealth, being the object of his aim; for, at this time, he and his family lodged in an apartment up four pair of stairs, and submitted on his elevation as deputy, and the inconsiderable gains accruing from a newspaper. As a determined enemy to monarchy, he was unremitted in his efforts to engage the nation in a war, with the avowed purpose of involving the king and his ministers in difficulties which would terminate in their ruin; and this part of his political conduct must ever be lamented and execrated by the friends of freedom, and of mankind. In the impeachment of M. Delefort, the minister for foreign affairs, Briffot took a principal lead; and alleged against him several articles of accusation, in consequence of which, he was apprehended, tried by the high national court at Orleans, and condemned to die, without being first heard in his own defence; so that he became the first victim to that desperate faction, which afterwards deluged France with blood. His colleagues were so completely terrified by this event, that they requested leave to resign, and the ministry was at once completely dissolved. Their successors, appointed by the king, under the direction and influence of Briffot, were Dumourier, Roland, and Claviere. This appointment was followed by a declaration
of war, decreed by the national assembly, against the king of Hungary and Bohemia; and Briffot, during the existence of this administration, which terminated soon, was considered as the most powerful person in France. About this time, Briffot began to entertain secret jealousy and suspicion, with regard to the views of La Fayette; and he concurred with other members of the assembly, in signing an accusation against him, which, however, he was not able to substantiate. He, and his republican party, were likewise indignant in their endeavours to throw an odium on the court, by alleging, that a private correspondence was carried on between the king and queen and the emperor; and they even averred, that an “Austrian committee,” and a conspiracy in favour of the enemies of the country, existed among the friends of the court. The charge seemed to be unsupported by sufficient evidence; the king publicly contradicted these accusations as calumnies; nevertheless, they made no small impression on the minds of the public. To the writings and conduct of Briffot, the horrid massacres at the Tuileries, on the 10th of August 1792, have been principally ascribed, though he is said to have preferred the lives of several of the Swiss guards on that fatal day. He was employed to draw up the declaration to the neutral powers concerning the suspension of the king’s authority; but he is said to have regarded, with horror the fanguirnary spirit that was now predominant among the leaders of the Jacobins. Whilasm, indeed, he was ascending to the pinnacle of power, he seemed to have been the ardent advocate of insurrection and the revolutionary power: but as he found himself raised to that station, he began to insinuate “order and the constitution.” To him we may not unjustly apply that expression in Tacitus, which he cites against the anarchists in the national convention: “Rerum potiori volunt; honores, quos quiet est, publica desperant perturbationem, contenti fi poeae arbitrantur.” In the shocking massacre of the prisoners at Paris in September, he had probably no concern. When the “National convention,” the idea of which is said to have been suggested by him, assumed the direction of the state, and assembled on the 20th of September 1792, he was returned as member for the department of Eure and Loire, his native country. In this assembly, he openly avowed himself an advocate for a republican government, in opposition both to the Jacobins and Orleans; and was expelled the Jacobin club. On this occasion, he wrote a vindication of his public conduct, under the title of “An Address to all the Republicans.” He appears to have been shocked by the prospect of the fatal issue of the king’s trial, and to have attempted the preservation of his life, by deferring his execution, till the constitution should be perfected. The war with England, which soon followed the death of Louis, is ascribed to his ardour and credulity; for he was said to imagine, that the consequence of it would be a civil war in this country; and it is said, that this, as well as the war with Holland, was decreed in the national convention, Feb. 1, 1793, at his motion. This charge, however, he retorts on his accusers, and says, that the anarchists, by voting the death of the king, were themselves the authors of the war. See his “Letter to his constituents, on the situation of the national convention; on the influence of the anarchists, and the evils it has caused; and on the necessity of annihilating that influence, in order to save the republic.” English translation, No. 1794.

Briffot’s influence gradually declined; and his party was at length overpowered by a more violent and sanguinary faction, denominated the “Mountain,” so called, from its members usually sitting in the convention, on the upper seats of the hall, at the head of which was Robespierre, of execrable memory. The treachery and defection of Du- mourier likewise contributed to hasten the downfall of this party. To their imbecility or perfidy, the public calamities that threatened the country, were generally ascribed; and, after the establishment of the “Revolutionary tribunal,” for the purpose of trying crimes committed against the state, in March 1793, a petition was presented in the following month by the communes of the 48 sections of Paris, requiring, that the chiefs of the Girondists, or Briffots, denounced in it, should be impeached, and expelled the convention. In May and June, decrees of arrest were issued against them; and against Briffot among the rest, who attempted to make his escape into Switzerland. But he was stopped and imprisoned; and in the following October, he and 21 of his associates were brought before the revolutionary tribunal. Briffot, who was elevated in the midst of them, maintained a firm and tranquil mind; but, though their accusers could support their charges by little more than mere furnaces, the whole party was immediately condemned to the scaffold. This band of friends, among whom were several of the most virtuous public characters of the time, passed together an heroic night, and were next morning led to execution. “There Briffot,” says one of his biographers, “after facing the blood of 16 associates stream from the scaffold, submitted to the stroke, with the utmost composure, and thus expiated the political faults of his life.” Thence conformed, perhaps, more in vanity, enthusiasm, and precipitation, than in bad intentions; though he cannot be pronounced untainted with the vices, incomparable from a course of ambition. In the relations of private life, his character stands without reproach. Life of J. P. Briffot, said to be written by himself. Gen. Biog.

BRISSUS, in Natural History. See Echinus.

BRISTLE, a thick glossy kind of hair, wherewith the fwine kind more especially are covered. The name is sometimes also applied to the quills of porcupines, and the mullachs or whiskers of cats. Hogs’ bristles are hard, transparent, horny substan-ces, of a prismatical figure, without any appearance of cavities or pores in them, discoverable even by the microscope. Cats’ bristles have a large solid pith in the middle. Hogs’ bristles constitute an important article of exportation in Russia. In 1793, the value of those that were shipped off amounted to 742,000 rubles.

BRISTLE-dice, a sort of false dice, furnished with a piece of hog’s bristle stuck in the corners, or other places to hinder their falling on certain sides, and make them run high or low at pleasure.

BRISTLE-moss, in Botany. See Orthotrichum.

BRISTLED, in Heraldry, is a term used to denote the hair on the neck and back of a boar, which is usually of a different colour.

BRISTOL, in Geography. This second city of England is situated on the southern extremity of Gloucestershire, and the northern of Somersetshire, and once formed part of both counties. It is fasted principally on a peninsula between the rivers Frome and Avon, and lies in 51° 39’ N. lat. 2° 49’ W. long. and is in a bearing west 117 miles from London, and 12 from Bath. Various conjectures have been formed relative to its ancient and present name. Barrett, in his large history of this city, says it received the appellation of Caer-Oder at an early period; but is at a loss for the origin of Oder. Caer-Brito, its original designation, was evidently the generic name it obtained while a protected city of the Britons, under the Roman forces, which were stationed at Abone in its immediate vicinity. From this it was changed to Brightflow, or Brightflock, perhaps a translation of Caer-Brito; or it might have taken that name from Brightick,
Brightock, son of Aler, and great-grandson of Alfred, who was hereditary lord of the place. Its present name, Bristol, appears to have been derived from some early Latin words, taken from it by way of euphony, to Britolana, while that of the modern pronunciation, Bristol, is evidently an abbreviation made of pronouncing Brightock. It is a trade city, from an account which William of Worcester gives of it, and from the several names, it seems, that Bristol was founded, or rebuilt by Brenanus, son of Malvina or Denua, who reigned a king of the Britons 28 years, and was ancestor to the Christian race. In allusion to which, it is said, the names are placed over St. John's gate, in this city, emblematic of Brenamus and Belinus, who are said to have reigned constantly after the decease of their father. It is probable that a situation so eligible must have attracted every Briton, who therefore made it a place of associated habitation, previous to the Roman invasion;—however, it is certain that it was a place of importance during that period. In Consilid, as early as A.D. 430, reckons this among the fortified and eminent cities of Britain, under the name of Cas-Bristo. Nennius 410, A.D. 620, mentions it in his enumeration of 28 cities of Britain. On the decision of the island by the Romans, the Saxons overran the country and took possession of Bristol. Leland says, it was by them considerably increased; and also remarks, that St. Jordans, a disciple of St. Augilutne, went by pope Gregory to convert the Saxons to Christianity, preached the gospel at Bristol, where he died and was buried. Thus we had it a place of note at the end of the 6th century. In Domesday book, finnished by command of the conqueror in 1086, the inhabitants are styled burgesses. It was then increased in rate by no city, except London, York, and Winchester.

Early and present extent. The city, as first laid out at the conflux of the Frome and Avon, was, except on the northern part, where afterwards the castle was erected, inundated by these rivers. The ground sloped each way to the centre, forming a pleasant hill. It was divided into four transepted streets, and walled round after the course of the river for its better defence. At the end of each street was a fortified gate and a church, and four churches surrounded the castle at the centre of the city. In the late Bristol could not exceed a mile and a half in circumference. The conflux of people drawn hither by its growing trade soon extended it beyond the walls, both on the Gloucestershire and Redcliffe side of the Avon. Other walls and gates therefore would become necessary, and it was thus further defended, before the wooden bridge was built across the Avon. Leland mentions others, which he terms "Eternavc secunda mervia urbic." Indeed, the large and strong castle, with its outworks, when completed, as it joined closely to the old town and the buildings on the southern side of the river, inclosed also by a strong wall, were great additions to the city, and thus made its circumference at least two miles and a half. The accession of the monastery of St. Augilutne, with Caunt's church and hospital to the west, the priory of St. James to the north-west, and the purchase of the castle precinct, and laying it out in streets, added very considerably to the extent of Bristol, towards the close of the 17th century. Since that period most of the buildings have been erected, both in the city and suburbs, which bear a modern appearance, and these have been numerous, so that it may be truly said, that Bristol has increased, within the last 40 years, full a fourth. This city once formed part of the Saxon kingdoms of Wessex and Mercia; and after the whole of England was subjected to one monarch, and divided into counties or shires, constituted part of the counties of Gloucester and Somerset, though it was generally considered as belonging to the latter county. It was by royal

chatter, temp. Edw. III. made a county of itself; and by other different charters, its boundaries have been extended from time to time, till they now form a line on the Gloucestershire side, of 4 1/2 miles and 37 perches, and on the Somerset side 2 1/2 miles and 18 perches; the whole city is therefore 4 miles and 75 perches in circumference, and, taking in the suburbs from Lawrence-hill in the east to the Hot-wells in the west, is more than 5 miles in length. Its breadth, from Stokes Croft turnpike on the north, to Aston turnpike on the south, is upwards of 2 1/2 miles. The number of houses and inhabitants it is difficult to ascertain. In the late survey by order of government, the return from Bristol must have been very inaccurate, and is slatted at 10,896 houses, and 63,645 inhabitants. Anderson, in 1738, puts the latter down at 100,000, but gives no documents for this enumeration. The houses may be slatted on an average estimate at 17,003; and if the environs of Temple-forest, Lewin's-mead, College-place, Lime-kiln-lane, &c. be attended to, the rate of 7 to 1 house will not appear too high. This calculation, including those in hospitals, almshouses, &c. will bring it to about 135,000 persons, which will not far exceed the truth.

Public Buildings, &c. The buildings in the old part of the city are awkward, and the various alterations that have taken place at different periods have destroyed all uniformity. The city stands on very uneven ground, and very high walls are raised round most of the houses; but the enormous height to which they are often built, appears highly unreasonable, especially when it is considered that an enclosing wall has been known to coil the value of the house itself. This passion is declining, and Bristol can now boast some good and handsome houses, in the open streets, figures, &c. Among the principal buildings are the Cathedral, Redcliffe Church, the Exchange, Infirmary, Public Library, Theatre, Assembly-rooms, &c.

The Cathedral is only part of the original building, which was the church belonging to the abbey of St. Augilutne, founded by Robert Fitzhardinge, younger son of the king of Denmark, whose monument is still preferred within it. At the dissolution of the monastery, this noble building, then 350 feet in length, was partly demolished; but when the king determined to erect six new bishoprics, of which Bristol was one, and was informed there was enough of the fabric left for a cathedral, he put a stop to its further demolition; the western part being removed, it was left in that mutilated state in which it remains; the present fabric consists of the transept, the eastern part of the nave, and the choir. At the time of its foundation it is a large square tower, highly ornamented and crowned with battlements and four pinnacles. The present church, from east to west, is 175 feet; its breadth of transept, from north to south, 128 feet; the breadth of nave and aisles 73 feet, and height of the tower 140 feet. The establishment is a dean, six prebendaries, four minor canons, faciels, &c. and service is performed twice every day.

The Church of St. Mary Redclife, says Camden, "is like a cathedral, and on all accounts the first parish church in England." It was founded in 1292 by Simon de Burton, who was six times mayor of Bristol. According to the mayor's calendar, this church was finished A.D. 1376, and was then celebrated for its architecture all over England. The tower and spire were 250 feet high; but in 1415 a terrible storm of thunder and lightning destroyed part of the spire, and the church was much damaged. The latter was repaired by the munificence of Mr. William Canning, merchant, but the spire was never rebuilt. The church stands on an eminence, called Redcliffe-hill, and is built in the form of a cross. The nave rises above the aisles, is lighted by a series of lofty windows on each side, and is supported by flying buttresses. The tower is large, and with the remain-
The spire, richly ornamented with carved work, and also a variety of niches and statues. Though a lofty and massive building, yet, from the peculiar beauty of its masonry, it has a light and airy appearance both without and within. The roof, nearly 60 feet in height, is arched with flone, and ornamented with various devices. The church, including our lady's chapel, is in length 239 feet, and the transept, from north to south, 177 feet. The breadth of the nave and aisles is 59 feet, and at the crofs, nave and aisles, 114 feet. The height of the aisles both direct and transept is 25 feet. The height of the nave is 54 feet. St. Mary's chapel has been separated from the church, and is used as a grammar-school. A peculiarity observable in Redcliffe-church is that the transept consists of three divisions, or aisles, similar to the body of the church, which has a fine effect when the spectator places himself in the centre of the building, and looks around him. Besides the above, there are 15 other parish churches in Bristol, some of which are modern structures. Temple church is rather curious, and its tower is out of the perpendicular. There are also 22 chapels, or places of worship for dissenters of different denominations, and 5 chapels of the established religion.

The Exchange, finished and opened in 1743, was built by Wood, the architect of Bath, at an expense of £50,000. It is a handsome building, in the Grecian style, 110 feet in front, and 148 feet in depth. The principal front is upon a bold rusticated basement, the central part of which makes a tetrastyle of almost whole columns, with Corinthian capitals, supporting a pediment, in the tympanum of which are the arms of England carved in flone. The place intended for the merchants is a peristy of the Corinthian order, 50 feet by 80, and capable of containing 1440 persons.

The General Hospital, for the reception of all cases, and all persons of whatever nation, is a handsome edifice, though it has unfortunately never been yet completed.

The Theatre-royal, King-street, is a peculiarly neat and convenient structure: indeed, Mr. Garrick pronounced it to be the completest in Europe of its dimensions; and he wrote a prologue and epilogue, which were delivered at the opening, May 30th, 1766.

The Bristol City Library, so called, because part of its collection belongs to the corporation, and the greatest part to a society of gentlemen. It contains an excellent assemblage of ancient and modern books, which, by donations and annual subscriptions, are rapidly increasing. They are contained in a large freestone building erected for the purpose, with a convenient house for the head librarian, who has also an assistant librarian.

The Assembly-room, in Prince's-street, has a beautiful front of free-flone, confiding of a rustic basement, with a central projection supporting four Corinthian columns, coupled and crowned with an open pediment. On the frieze, in relief, is the following motto: "Curas cithara tollit," Music dispels care.

To these may be added, the Civil Hall, where the scribes, sealing, and other public business are transacted.

Government, civil Officers, &c.—The original government of Bristol seems to have been mixed, military and civil; the chief authority residing in the lord constable of the castle, who deputed another officer for the execution of justice, called "prepositus ville," or provost of the town. The earliest account of this officer occurs in Domeladay-book. In the reign of king John, Bristol obtained a charter to be governed, like London, by a mayor, &c. From the Annals, it appears, that the civil government, at different periods, has been variously modelled, as appears from the following list:

1. Till A. D. 1205. A prepositus under the curtains of the castle.
2. 1260. A mayor and two prepositi.
3. 1313. A mayor and two serjeants.
4. 1372. A mayor and two bailiffs.
5. 1500. A mayor, sheriffs, and two bailiffs.
6. To this day. A mayor and two sheriffs chosen annually.

The government of the city is now administered by a mayor, a recorder, twelve aldermen, who are all justices of the peace, two sheriffs, an under-sheriff, twenty-eight common-council-men, town-clerk, deputy town-clerk, chamberlain, vice-chamberlain, stewards of the sheriffs' court, clerk of the arraignment, registrar of the court of conscience, and also a high steward. There are other officers pertaining to the corporation, as sword-bearers, two coroners, water-bailiffs, quay-masters, school-masters, clerk of the markets, keepers of the prisons, inspectors of nuisances, fire-wards at inn, esquires of the court, common-crier, exchange-keeper, sheriffs' officers, club-men, city marshal, and a band of musicians in constant pay. Great form is observed on the 15th of September, in the election of mayor, when the whole body corporate is convened. He is allowed £100. for the year of his mayoralty, and the sheriffs £50. each for the year of their vice-chancellor. The mayor has the highest marks of honour granted to magistracy, scarlet ermine gowns, sword, nave, cap of maintenance, &c. He holds a daily feflamm in the council-house to hear complaints and accommodate differences, courts of conscience, and pie-power, quarterly seifions, and a general jail delivery twice a year: one for the decision of civil, and the other of criminal causes, wherein the court has the power of life and death. The mayor, aldermen, and common council have the custody of the city seal, which is imprefsed with the city arms. These are gules, a cable on a hill by the sea-side, and the helm of a ship plying by, all proper; to which were afterwards added two unicorns as supporters. The motto is, "Virtute et Industria."

From the time Bristol was made a county of itself, it has, by various charters, and grants, been endowed with additional privileges and immunities, all of which were confirmed by a new charter from queen Anne. By another of king Edward IV. 1461, Bristol was exempted from the authority of the high admiral of England by land and water; and the right of determining differences, belonging to the court of admiralty, was referred to the mayor and corporation. The jurisdiction by water extended up the river only to lower Harrow, till an act of William carried it to Hanham; thence it reaches to King-road and down the channel to the Flat-holmes. To this place, Gildas, the ancient British saint and historian, retired, and here he died. The opulent corporation of Bristol is politicised of large estates, both in the city and in the country; and they are the patrons of several church livings, so that they not only possess great influence, but have it in their power to encourage genius, and reward industry and merit. The city is divided into twelve wards, each of which has an alderman to preside over it. The recorder is always one of the aldermen, and by virtue of his office, the principal. The senior alderman, as in London, is called the father of the city. Every ward has one chief constable, and twelve others, a night constable, and a proper number of watchmen under him.

Bristol contains three prisons: Newgate, at the end of Wine-street, which is a gaol for malefactors and debtors; Bridewell, or the city prison, for the confinement and correction of felons; and at the end of Gloucester-street is a prison, on Howard's plan, for that part of the suburbs...
which stands in the county of Gloucester, and a Bridewell on the Somerset side. The act for lighting Bristol with lamps was procured in the reign of William III. This obliged the citizens to hang out their own lamps; but they are now provided, and the lighting contracted for, by the different parishes. Most of the streets are well paved on the sides with flag stones; but the pitching with pebbles in the carriage-way is at present extremely uneven and bad, and requires amendment. The poor rates are separably assessed, and collected on the respective parishes; but the poor are taken care of conjointly, and have a house called St. Peter's Hospital. There are fourteen flanks of hackney coaches in various parts of the city, and one at Dowry Square. Each coach is numbered, and marked C. B. There has lately been instituted at Bristol a society for the suppression of vice.

Bristol appears to have been a borough at the Conquest, and at a very early period, by ancient predestination, sent two burgesses to parliament. A list of its representatives is still extant from the 23d of Edward I. 1295. None can vote for members but such as are free of the city, which freedom is attained by servitude, by hereditary right, by marrying a freeman's daughter, or by purchase. The number of freemen, at present, is about 8000. The city gives title to an earl, and the earldom was formerly in the noble family of Digby, but is now in that of Hervey.

Commerce, Trades, Shipping, &c.—That a port so situated as Bristol should have early participated in the commerce of the country, can be no matter of surprise. William of Malmbury, in 1139, says, it was a place much addicted to trade, and was then full of ships from Ireland, Norway, and every part of Europe, which brought hither much commerce, and great foreign wealth. From the charter of King John something may be learnt of the commerce of the place in his reign, but more will be furnished by that of Edward III. Bristol was grown so opulent in 1327, that the mayor and commonalty lent the king (Richard II.) 500 marks, which is the first instance (except London) in the Fledera of a lay community lending money to the crown; and, in future loans, we find Bristol follow London. In 1487, a petition was presented to the king, to empower the citizens of Bristol to remove all obstructions in the river Avon that impeded its navigation between Bristol and Bath; for before the time of Richard I. the Avon was navigable to Bath. In 1711, an act of parliament was obtained, at an expense of 15,000l. to amend this navigation by placing wears, locks, and other obstructions. In the roll of the fleet of Edward III. which was at the siege of Calais, in 1347, we find the proportion of ships and men furnished, on that occasion, by London and Bristol: the former supplied 25 ships, and 662 men, and the latter quota was 22 ships, and 568 men. William Cannyngs is dillingshewed as a great merchant here in 1442, and he appears to have traded with peculiar privileges, to Prussia, the Hafnetic towns, and Denmark. William of Worcelter says, that Cannyngs employed for eight years, in his own shipping concerns, 800 men, and he specifies the ships and tonnage employed by him. The same Cannyngs paid king Edward IV. 4000 marks for his peace, i.e., for leave to trade to prohibited places, and to be free of imposts and duty.

The commercial character of the Bristol merchants will be best apparent from the letters patent which were granted to John Cabet, a Genoese by birth, but a resident merchant in this city, and to his three sons, who fitted out vessels for the purpose of discovery. In 1527, Robert Thorn obtained leave to go on a voyage of discovery, to find out a north-west

pillage. In 1593, Sir Humphrey Gilbert performed a voyage for the colonization of America, an account of which is given in Hakluyt. Many other voyages were afterwards made from Bristol, with the like public-spirited views, though not with equal success. The merchants had, previous to 1526, traded to St. Lucas in Spain, and thence to the Canaries, finding out cloth, soap, &c. and bringing in return sugar, drugs, dye-stuff, &c.; and De Wit, in his interell of Holland, says, this city very early engaged in the cod-fishery on the coast of Newfoundland, and also entered into the West Indies trade soon after the discoveries were made. In 1556, the merchants were incorporated into the society called Merchant Venturers; and various grants, immunities, and franchises, were annexed to their society. Seaball Batb was constituted the first governor. In 1588, four ships were fitted out from Bristol to join the Queen's fleet at Plymouth. With regard to the present state of trade, it is very considerable to Florida, Carolina, Virginia, New York, Newfoundland, Quebec, Spain, Portugal, West Indies, Denmark, Sweden, Russia, Prussia, &c. The ar

dour for the African trade seems much to be abated; and the Bristolians now yield the palm of traffic in human beings to the rival port of Liverpool. The merchants in Bristol trade with a more entire independence on London than any other port in Britain. Whatever exports they make to any part of the world, they can import the full returns, and find a market, without confounding their ships or cargoes to London. They have buyers at home for their largest importations, consequently the shopkeepers of Bristol, most of whom are wholesale dealers, keep up a great inland trade, having riders and carriers, like the London merchants.

The quay of Bristol, which was commenced where the bed of the Frome was altered, reaches round from the stone bridge on the Frome, to the new handsome bridge over the Avon; in extent one mile, being one uninterrupted wharf of hewn stone, with sufficient depth of water, at flood tides, for the largest ships to ride close to the walls, and discharge their cargoes. These, as the tide ebbs, ride safe at their moorings on a soft oozy bed of mud; but foreign and sharp keeled ships are often strained, and obliged to go into dock after lying here. This occasioned a new floating-dock to be made, at the expense of 20,000l. It is situated near the Hot-well-road; its gates will admit a 4-gun vessel, and it will contain 40 sail of shipping. Here also are dry and wet docks, for repairing and building ships. A scheme has long been in contemplation to dam up the water, and keep the vessels in the harbour conffantly afloat. In 1803, an act of Parliament was obtained for the purpose, a plan was adopted, and this great work is now executing with all possible expedi

ion. When completed, the port will be capable of holding 1000 sail of shipping, which convenience must, eventually, be of great advantage to the city. The plan is to dam up to a certain height the whole of the present bed of the Avon and Frome, and to make a new channel for the river through Redcliffe meads. Three hundred thousand pounds are already subscribed, and three years given to accomplish the design. From what has already been done, it is conjectured that the expenditure will not exceed the estimate; and if workmen can be obtained, it is presumed that it will be finished within the affixed period. By this plan, ships will not only be kept afloat at the quays, but may enter the locks, and go to sea at high tides, which will be a wonderful saving in time and expense; and a navigation will be opened up the Avon, as high as the town of Keynham, in one level: the money to be raised by duties and taxes, bearing an interest of 4 per cent., and not exceeding 8 per cent. The interest is to be raised by a tax on houses in the city, of
one shilling per pound rent, and a port-duty on all goods and merchandise imported. The tax on houoses is considered to be partially to be just; and the duties on articles imported may probably act as a considerable prohibition on foreign vessels frequenting the port. Time alone, however, must disclose the policy or impolicy of thus raising the sum necessary for its accomplishment. The trade of this port has been ever fluctuating from the time of Henry II. 1157, (when William of Malmsbury makes such favourable mention of it) to the present time. Every vessel of above 60 tons burthen pays a certain wharfage; and from the water-bailiffs' returns, it appears that, in 1745, it amounted to 915L 18s. 7d.; in 1775, to upwards of 2000L. In 1742, the privateers fitted out from Bristol, according to Barret, exceeded in tonnage, number of guns and men, the whole royal navy of Great Britain. In 1769, there were entered inwards at the Custom-house 427 foreign ships, exclusive of Londoners, Coalters, &c.

In 1787 the entry at the custom house was as follows:

<table>
<thead>
<tr>
<th>Ships</th>
<th>Tons</th>
<th>Ships</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered inwards—Brit.</td>
<td>416</td>
<td>48</td>
<td>123</td>
</tr>
<tr>
<td>Entered outwards—Brit.</td>
<td>323</td>
<td>406</td>
<td>74</td>
</tr>
</tbody>
</table>

The following is a list of ships and vessels belonging to this port in 1757:

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Tons</th>
<th>Men</th>
<th>P髄ing Vessels, &amp;c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>328</td>
<td>53</td>
<td>911</td>
<td>171</td>
<td>71</td>
</tr>
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After this period the trade increased considerably; and another computation states, that in 1788, 54 ships were employed to Jamaica, 38 to the Leeward islands, 37 to Africa, 33 to Newfoundland, 50 to North America, and 200 between Bristol, Ireland, France, Spain, London, &c., amounting to 1522; besides 102 trows from 50 to 130 tons burthen, employed in the Severn and Wye trade. But the commerce of Bristol received a severe check during the late war; and the present paralyzes the spirit of adventure, and the hand of industry. Should peace quickly return, and the port be finished, there can be little doubt but this place will become more flourishing than ever.

Besides the foreign trade, Bristol has many very considerable manufactures; and the cheapness of fuel, with the ready conveyance to a market, renders this an advantageous place for carrying on various trades. The brass rollery business was begun here about 1704. The manufactory of zinc out of calamine stone, and the ore of zinc called black Jack, was established at Bristol in 1743, for which Mr. Champion obtained a patent. Mr. Emerson at Hanham established works for making brass, by exposing copper to the flames of calamine, and obtained the finest brass in the world. Vide Watkin's Chemistry.

The glafs houses of Bristol are not only numerous, but great quantities of different glafs articles, and bottles, are annually made here. This trade is increasing, and it is said that more glas is manufactured at Bristol than at any other place in England. Many large iron foundries are also established here, and a steam-engine factory is erected for boring cannon; smelting lead, and making of white and red lead, are among the manufactories of this city.

There are 20 sugar-houses for the refining and manufactury of sugars; several large distilleries, which help to supply London; and the exportation to foreign parts is very considerable. The manufacture of soap has long been an article of great trade here; for, in 1525, it supplied London with the best grey speckled soap at 1s. per pound; but it is now 1s. Large quantities are still sent to London, to most parts of the kingdom, and to America. This place was, at an early period, noted for its woollen trade. In 1339, we find from Rymer, that the cloth manufacture was removed from Flanders, when Bristol was appointed a principal staple of wool, and many brooms were let up for weaving woollen cloths. In Henry VIII's reign, it was full of clothiers, weavers, and tuckers; and the magistrates gave great encouragement to set up the Colchester rug manufactury, and many sums have at times been left to the corporation in trust for the use of young clothiers. This trade is not entirely taken away, as some woolen fusts, ferges, &c. are still made. The manufactury of silk fringes, fall cloth, cottons, morocco-leather, &c. must not be omitted. Several potteries also now rival those of Staffordshire.

Military History, Cloth, &c.—It is highly probable, that so conspicuous and important a place early partook of the dissipations arising from the internal commotions of this kingdom, and the evils arising from foreign invasion. But history is silent, the records being lost till 915, when Stow says, a great navy of Danes failed up channel and infected the western coasts, landed in divers places, and took great plunder; at which time Bristol suffered from the marauding enemy. King Edward son of Alfred, 911, according to the Saxon annals, sent his army out of Mercia, and met them in Welfois, where he fought and routed them. The battle was decisive, and the Danes were then subject to the Saxon monarch. Edward went on to build towns and castles; and amongst others he built that of Bristol, on the Mendips side of the river Avon. Camden, therefore, was evidently mistaken when he affirms that Robert Rufus, natural son of Henry I., was the founder of the castle of Bristol. Turgot mentions it as the work of Edward in 915, and says, it was "the goodliest of five built on the banks of Avon;" and in 1088, it is mentioned by Roger Hoveden as "Caftre fortifiematic." and if it were 100 years after the conquest, there cannot be a doubt, but it previously existed as a fortres for the defence of the city. Another decisive proof of Camden's error is, that the castle was held by Godfrey bishop of Conisbrough, and Robert de Mowbray earl of Northumberland, in a rebellion against king William Rufus in 1088; before king Henry I. earl Robert's father, was at man's citate. This early, though not the founder, certainly rebuilt some parts, repaired other, and erected a palace and other offices. He also built a magnificent tower, fearlessly equalled at that time in England, and encompassed the whole with strong walls. Leland informs us, that Robert built part of it, and that "the dungeon tower was made of stone brought out of Normandy by the red earl of Gloucester." It was not till 1130, that earl Robert began to rebuild and improve the castle; which, excluding the out-works, was 450 feet from cast to west, and 300 feet from north to south. There were in it two great courts, many towers, a church, and a magnificent chapel. The king had also a palace within the walls. The principal buildings stood upon an area, covering 33 acres of ground, exclusive of courts, yards, and other accommodations for the officers and the garrison. Leland informs us, that the great tower flood in the north west part of the castle; and in his time, about 20th of Henry VIII., the whole was in a decayed state, and tending fast to ruin. In the reign of John, the castle was annexed to the crown; and here that monarch cruelly confined the princes Eleanor, (called the damsel of Brittany,) who, after forty years miserable confinement, died here in 1244. In the baron wars, during the reign of Henry III., p. ince Edward his son supplied the castle with provisions, and fined the townsmen.
tions were made for not affiding him with supplies. The latter besieged him in the castle, and the prince fled to Windsor, where he was soon forced to accept terms at the head of the haven. When the duke of Lennox opposed, however, the inhabitants of Bristol threw open their gates to the invading forces, who stormed and took the castle, in which many of the king’s friends had taken refuge. The inhabitants of Bristol’s father displayed the Earl of Richmond, afterwards Henry VII, at which time Duke d’Aubigny held the castle. During the restoration, tunnies broke out in the west, and at Bristol, the castle, walls, and gates of the city were repaired and mounted with cannon; but by the prudent conduct of Mr. William Chetler, the discontent were soon appeased, and a general pardon was procured for the delinquents. In the years 1545 and 1553, a mutt was established in the castle; and the church plate, seized by the commissioners, was here coined. By a petition to king Charles I, 1620, the king granted the castle and its appurtenances to the mayor and corporation of Bristol, and made it a part of that county and city; and in 1631, it was sold to the mayor and burgesses for £50. In the commencement of the war, between the king and his parliament, the castle was repaired and garnished by the parliament-army, under the governor Col. Nath. Fennes. This was considered a place of the greatest consequence, and forced to awe all the western counties, having accommodations for a large army. The king, therefore, was very desirous of obtaining possession; a plot was formed by Yearmans and Boucher, to deliver it up to the king’s forces; but this being discovered, prince Rupert, at the head of a considerable army, beleaguered it; but fearing the length of a blockade, he determined to take it by force, which he quickly effected. But the place was thus dearly bought, for the king lost most of his valuable officers, and more than 500 of his best troops. It was thought of so much consequence, that a public thanksgiving was ordered for the success of his majesty’s army. The citizens subscribed £1,400 to prevent the plunder of the powder; and orders were consequently given for death to the penalty of plunder. Bristol was ordered to pay £5,000 in money, and cloths and equip 1350 of the king’s soldiers. At the battle of Naseby, Prince Rupert repaired to Bristol, which he found supplied with men, provisions, and ammunition, so that he wrote to the king, assuring him he was able to sustain four months’ siege. This revived the hopes of the king’s party; and it was thought that the prince would make a vigorous and desperate defence; but, to the surprise of all, he made but a very feebile and short resistance. This unexpected and disordered event damped the royal cause, which from that day rapidly declined; and certainly the capitulation of this grand ilation hastened the fatal catastrophe of the king’s submision, and subsequent decapitation. After Oliver Cromwell was proclaimed protector, he issued orders for the demolition of the castle of Bristol. The dismantling was begun in 1665, and the whole was razed to the ground. Scarcely any vestiges are now remaining. Thus this fortress, deemed impregnable in former ages, and which has made such a distinguished figure on the page of history, the subject of so much negotiation, and so much contention, was destroyed after having weathered the storms of seven centuries. The inhabitants, previous to this period, appear to have always been in opposition to the reigning princes, but subseqently, however, the reverse appears the case. In the duke of Monmouth’s rebellion, they espoused the cause of king James. During the rebellion, in the reign of George I, and especially in 1745, they were decidedly for the house of Hanover; and in the present day their exertions in defence of the nation are too well known to need a comment.

Such are the most material places, objects and events, connected with the city of Bristol. We may further state that its buildings cover an area of about 1600 acres of ground, and the suburbs above 500 more. With the appendages it contains 600 streets, squares, lanes, courts, &c. in which are erected 47 churches and chapels. Here are 5 hotels, 50 inns and taverns, 7 banking houses, and 4 prisons. It is the chief city, quay, and mart of the western parts of the kingdom, and is cuffed among the principal cities of Europe.

Bristol is the birth-place of many distinguished literary and public characters, the memoirs of whom will be introduced under their respective heads. We shall therefore only mention the names of the principal: Thomas Chatterton, poet; Sir William Draper, William of Worscest, William Canynges, Edward Cellon, Ann Yeandle, Mary Robertson. For an account of the Hotwell’s, Clifton, St. Vincent’s rocks, and many places in the vicinity, see Clifton. Barter’s History of Bristol, 4to. 1789.

BRISTOL, a township of America, in Lincoln county, and district of Maine, containing 1718 inhabitants; 204 miles N.E. from Boston.

BRISTOL, a county in the southern part of the state of Massachusetts, situate to the east of a part of Rhode island; its principal town is Taunton. It has 15 township’s, 973 acres of improved land, 130,967 of that which is unimproved, 31,700 inhabitants, and 17,860 head of cattle.

BRISTOL, a county in the state of Rhode island, bordering on Bristol county in the Massachusetts, north; and mount Hope bay, call, and including the townships of Bristol, Warren, and Barrington. The number of inhabitants is 3211, of whom are 682 slaves.

BRISTOL, a sea-port town, and capital of the preceding county, lies on the western side of the peninsula, called Bristol neck, and on the east side of Bristol bay; including Popaquinsh- neck, and the whole northern and eastern parts of Bristol neck to Warren, north; and to mount Hope bay, east. Its distance, including the ferry, about half a mile broad, is about 3 miles from Rhode island, 43 miles from Newport, 24 S.E. from Providence, and 63 from Boston. Although it has suffered greatly by the ravages of war, it is now in a very flourishing state, having 1400 inhabitants, including 64 slaves. Its situation is beautiful; its climate healthy; its soil rich; and its harbour safe and commodious. Onions, in considerable quantities, and a variety of provisions and garden stuff, are raised here for exportation. N. lat. 41° 45’, W. long. 71° 20’.

BRISTOL, a township in Hartford county, Connecticut; 16 miles W. of the city of Hartford.

BRISTOL, a town in Bucks county, Pennsylvania; 11 miles S.S.E. from Newtown, and 20 N.E. from Philadelphia; seated on Delaware river, opposite to Burlington in New Jersey, and containing about 50 or 60 houses. It is noted for its mills of various kinds. N. lat. 40° 17’, W. long. 75° 58’.

BRISTOL, a township in Philadelphia county.—Allo, a small town in Charles county, Maryland.—Allo, a township in Addison county, Vermont, call of Vergennes, having 211 inhabitants.—Allo, a new town of New York, in Schenecro county, incorporated in 1797.

BRISTOL Bay and River, lie on the north-west coast of North America; the north point of the bay is Cape New- him, and the south point is Cape Oenemak, on the peninsula of Alaska. These two points of the bay are in N. lat. 54° 30’ and 58° 42’, and in W. long. 162° 24’ and 163° 20’.

The
The river, which runs into the bay from the east, is about a mile broad at the entrance, and has plenty of salmon. N. lat. 58° 27'. W. long. 158° 5'. The variation on this coast is nearly 29° E.

**Bristol Bay**, a bay on the S.W. coast of Nova Scotia. N. lat. 44° 41'. W. long. 63°.

**Bristol Cape**, lies in Sandwich island, 8 leagues N. from cape Montague, and E. from Freeland peak. S. lat. 59° 2'. W. long. 26° 51'.

**Bristol Channel**, the estuary or wide frith of the Severn, is that part of the Atlantic Ocean, which lies between the south coast of Wales and the counties of Somerset, Devon, and Cornwall, in England.

**BRITISH ISLES**, in fortification, a line of four or five fathoms, which is allowed to the captain and oriflon, to make the hollow tower, or to cover the concealed flanks.

**BRITISH, in heraldry**, is the mark of distinction of houses or families, when borne as such on a bend, fesse, &c.

**BRITAIN**, Great, the most considerable island of Europe, comprehending the two kingdoms of England and Scotland, with the principality of Wales, and extending from Lizard point, N. lat. 50° nearly to Dungby-head in N. lat. 58° 30' nearly. Accordingly, its length is about 500 miles. Its greatest breadth from the Land's End, in W. long. 5° 45', to the north Foreland, in E. long. 1° 17', is about 488 miles. Its form, however, is somewhat triangular; as it has three promontories, projecting in different directions, viz. the Land's End, in Cornwall, towards the west; the North Foreland, in Kent, towards the east; and Dungby-head, in Caithness, towards the north; and the circuit of its three sides, allowing for the windings of the coast, contains, by a general estimate, about 1500 miles.

But if Great Britain were considered as a perfect triangle, the length of its three sides would measure about 1500 British miles. It is bounded on the north by the Northern Ocean, on the west by the Atlantic and the Irish Sea, which separates it from Ireland, on the south by the British Channel, which divides it from France, and on the east, towards Germany, by the North Sea and German Ocean.

Some have supposed, that Great Britain was, in times of very remote antiquity, united with the continent. The entire separation of Great Britain from the continent must have happened, according to the conjectures of Mr. Kirwan, (Irish Tranfact. vol. vi. p. 301.) long after the deluge, and that of Ireland from Great Britain at a still later period; for wolves and bears were formerly found in both, and these must have passed from the continent into Britain, and hence into Ireland, as their importation cannot be suspected. The divulsive force that separated Britain from Germany seems, according to this writer, to have been directed from north to south, but gradually weakened in its progress. Hence that island is sharpened to the northward; but the impression must have been considerably enfeebled by the opposition of the granitic mountains that form the Shetland and Orkney isles.

The broken structure of the calcareous or argillaceous and arenaceous materials of the more southern parts prevented lfs falience, were more easily preyed upon, and gave way to what is now called the German Ocean, while these materials themselves were spread over Wealtphalia, &c. or formed the subsoil of Flanders, Holland, and the sand-banks on its coast. The rupture of the illusus that joined Calais and Dover was probably effected by an earthquake at a later period, and gradually widened by tides and currents. Ireland was protected by Scotland from the violence of the northern shock; and hence its separation from Scotland appears to have been late and gradual. That from England was probably diluvial, and effected by a southern shock. These changes, says this writer, happened at least 3600 years ago. But to return from this digression.

The fertility and pleasantness of Great Britain gave occasion to imagine, that there were the fortunate islands, described by the poets, where the face of nature exhibited a perpetual spring. In former times this was the granary of the western empire; from hence was transported every year an immense quantity of corn for the supply of the army on the frontiers of Germany. As to the history of its more cultured, its population, fertility, and a variety of other circumstances relating to it, we refer to the next article.

The climate of Great Britain is, perhaps, more variable than that of any other country on the globe; and this circumstance has been ascribed to the opposition between the vapours of the Atlantic Ocean, and the drying winds from the central continent. The western coasts are subject to frequent rains; and the eastern part of Scotland has a clearer and drier temperature than that of England. The humidity of the climate, whilst it invades the delicious vales and meadows with a verdure unknown to any other region, injures the health of the inhabitants, by occasioning colds and catarrhs, which too frequently terminate in consumptions, that are fatal to many in the prime of youth. Besides, the moist and foggy climate confuses, with the excellence of groat animal food, to produce that melancholy, which foreigners have considered as a national characteristic of the country. To the mutability of the climate we may reasonably ascribe the precariously of the fashions. To this purpose it has been observed by some judicious persons, that since the year 1775, a considerable change has taken place, with regard to the temperature of the year, both in Great Britain and Ireland. The winters have been, in general, more moist and mild, and the summers have been more dry and more cold, than the average of preceding years. With us the year might not improperly be divided into eight months of winter and four of summer. The spring dawns in April, which is commonly a mild month, but eastern winds prevail in May, and check the efforts of reviving nature, and disannihilate the promise of the year. June, July, August, and September, are usually warm summer months, with occasional frosty nights even in August, and clouded wind; and some summers have of late years been chilled by constant rain. Our winter commences with the beginning of October, which, however, is often a mild and pleasant month; severe frost does not commonly occur till Christmas. November is the most gloomy month of the year; and allowed, generally, to be the most unsettled month, interspersed with dry frost, cold rains, and strong winds, with storms of hail and sleet. But all observations of this kind must be considered as general in their nature; and counteracted by different situations with regard to latitude, and by a variety of local circumstances.

The population of Great Britain has been variously estimated; some reckoning it at 7,200,000, and others at more than 12,000,000. But in the year 1800 an act was passed, (41 Geo. III.) "for taking an account of the population of Great Britain, and of the increase or diminution thereof." From an abstract of the returns made to parliament, in consequence of this act, the following result was deduced:

**SUM.**
On this enumeration it is observed, that the total population of Great Britain probably exceeds the number of persons specified in the above summary, in as much as from some parishes no returns were received. From the number of houses in Ireland, nearly ascertained by the collection of a hearth-money tax, it has been computed, that the population of that part of the united kingdom somewhat exceeds four millions of persons. It should also be observed, that the islands of Guernsey, Jersey, Alderney, and Sark, the Scilly islands, and the Isle of Man, were not comprised in this enumeration; and that the total population of these islands has been usually estimated at about 80,000 persons.

On these considerations, with a very moderate allowance for omissions in the returns, the total population of the united kingdom of Great Britain and Ireland amounts to fifteen millions one hundred thousand persons; and besides these, its eastern and western possessions and colonies contain many natives of the British isles. On a more enlarged survey of these colonies and settlements, we may consider their inhabitants either as subjects of Great Britain, or as augmenting its importance by their intimate connexion with it. The most important of these are now in Asia; and in Hindostan, the nations subject to Great Britain cannot be now calculated at less than 40 millions. The acquisition of the Dutch settlements, the colony of New Holland, and more minute settlements, must also be taken into the account. In America, and what is called the West Indies, Canada, Nova-Scotia, Newfoundland, and the more northern settlements, with Jamaica, and the other islands, may, perhaps, contain a million. In Africa, the settlements at the Cape of Good Hope, the islands of St. Helena and at Sierra Leone, present an insignificant number; and Gibraltar is to be regarded merely as a military station. However, if we compute the North American states, detached from the mother country, at a population of five millions, the united kingdom of Great Britain and Ireland at 15 millions, and our colonies and settlements at only two millions, we shall find in the various countries of the globe an increasing population of 22 millions, diffusing the English language and manners to a vast extent, and contributing in one way or other to the wealth, power, greatness, and prosperity of Great Britain.

From the above table it appears, that the enumeration of 1801 amounts to 8,872,080 persons for England and Wales; and to this number an appropriate share of soldiers and mariners is to be added. These appear to have been 469,188; and if, exclusive of them, the total population of the British isles is 14,630,812, (15,100,000 - 469,188) about a thirtieth part may be added to the inhabitants in order to ascertain the population of any distinct part. Accordingly, in the following table, the existing population of England and Wales is taken at 9,168,000; and the population attributed to the other years, is obtained by the rule of proportion, thus: if 255,426 baptisms (the average medium of the last five years, deduced from the returns of parish registers,) were produced from a population of 9,168,000, from what population were 152,540 (the baptisms of 1700, given in the same returns) produced?

<table>
<thead>
<tr>
<th>Table of Population throughout the last Century.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGLAND and WALES.</strong></td>
</tr>
<tr>
<td>In the Year.</td>
</tr>
<tr>
<td>Population.</td>
</tr>
<tr>
<td>1700  - - -</td>
</tr>
<tr>
<td>5,475,000</td>
</tr>
<tr>
<td>1710  - - -</td>
</tr>
<tr>
<td>5,249,000</td>
</tr>
<tr>
<td>1720  - - -</td>
</tr>
<tr>
<td>5,365,000</td>
</tr>
<tr>
<td>1730  - - -</td>
</tr>
<tr>
<td>5,796,000</td>
</tr>
<tr>
<td>1740  - - -</td>
</tr>
<tr>
<td>6,064,000</td>
</tr>
<tr>
<td>1750  - - -</td>
</tr>
<tr>
<td>6,467,000</td>
</tr>
<tr>
<td>1760  - - -</td>
</tr>
<tr>
<td>6,736,000</td>
</tr>
<tr>
<td>1770  - - -</td>
</tr>
<tr>
<td>7,428,000</td>
</tr>
<tr>
<td>1780  - - -</td>
</tr>
<tr>
<td>7,953,000</td>
</tr>
<tr>
<td>1795  - - -</td>
</tr>
<tr>
<td>8,060,000</td>
</tr>
<tr>
<td>1799  - - -</td>
</tr>
<tr>
<td>8,675,000</td>
</tr>
<tr>
<td>1801  - - -</td>
</tr>
<tr>
<td>9,168,000</td>
</tr>
</tbody>
</table>

Upon a view of this table it may be observed, that although the beginning of the century exhibits a decreasing population, the lost number had been regained in 1720; and since that time a continual, though irregular, increase is manifested. It also appears, that the population of England and Wales, in 1801, compared with that of the beginning of the last century, is as 1,000 to 597, or nearly as ten to six. The following table for Scotland is formed in the same manner; but being founded on a collection of no more than 99 parish registers, from different parts of the country, it is of much less authority. These parishes contain less than a seventh of the whole population. In Scotland there are in all about 900 parishes.
The population of Scotland, in 1801, compared with that of the beginning of the last century, appears to be as 1,000 to 634, or nearly as 10 to 61, which, as the 99 parish registers were received from the manufacturing parts of Scotland, gives too high a statement of the increase of population.

In the year 1695 a poll-tax was levied in Ireland; and on that occasion it was calculated, that the number of inhabitants was 1,034,000; but the usual evasion of taxation may be supposed to have considerably increased the real number. About the year 1795, Ireland contained, at least, 4,000,000, and since that time the number has not increased. However, it may not be very erroneous to estimate the population of Ireland at 1,500,000 in the year 1700, and at 4,000,000 in the year 1801. If this be granted, the population belonging to all the British Isles has increased during the last century from 8,100,000 to 15,100,000.

Of the population of Great Britain, the army has, of late years, engrossed a considerable share. It consists of regulars, in cavalry, and infantry, and the militia, exclusive of artillery and engineers. The volunteer corps in Great Britain and Ireland amounted in December, 1803, to 43,500; and on the 1st of January, 1805, the secretary of war made the following return of the state of the British forces at home, and on foreign stations, viz. 21,223 of cavalry, including 1,083 horse artillery; 8,559 of artillery; 124,878 of infantry, including 20,747 men for limited service, and 21,203 men belonging to foreign and provincial corps in Great Britain; and 89,809 of militia: so that the whole British force, in regulars, militia, and volunteers, amounts to 67,449 men.

To these we may add the royal regiment of artillery, the horse brigade, the brigade of gunners and drivers, and companies of foreign artillery, amounting on the 1st of January, 1805, to 16,070; and the corps of royal artillery, artificers and labourers, including, at the same period, 704 men.

But the great rampart and supreme glory of Great Britain consist in her navy, in size, strength, and number of ships, far exceeding any example on record. In 1805, the total of ships in commission amounted to 683, consisting of 111 of the line, 19 fifties to forty-fours, 132 frigates, and 404 ships of various kinds; besides several repairing, in ordinary, and building: amounting to the whole in the number of 897. For this immense fleet, the number of seamen, annually voted, amounts from a hundred to a hundred and twenty thousand; a number which no other country ancient or modern could have supplied. To support the expenditure occasioned by the army and navy of Great Britain, to defray the other charges of government, and also to discharge the interest of the national debt, a very large sum is raised by a variety of taxes, in aid of the revenue, arising from the excise and customs. The ability of the country for bearing the burden which its exigencies impose upon it, consists in the produce of its land and manufactures, and in the circulation of property, occasioned by its domestic trade and foreign commerce. These sources of national wealth have been improved to an astonishing degree in the course of the last century and a half. Availing ourselves of the estimate of the national wealth of Great Britain, furnished by Mr. Grellier, in an ingenious work, written in one of our periodical publications (Monthly Magazine, 1789, p. 124), we shall subjoin the following statement of its value in the year 1770, 1780, and 1790, which Mr. Pettie estimated the wealth of England at the sum of two hundred and fifty millions. His computation is subjoined.

<table>
<thead>
<tr>
<th>Year</th>
<th>Value of the Land</th>
<th>Value of the Mines, etc.</th>
<th>Total</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1770</td>
<td>£250,000,000</td>
<td>£2,000,000</td>
<td>£252</td>
<td>£252,000,000</td>
</tr>
<tr>
<td>1780</td>
<td>£300,000,000</td>
<td>£3,000,000</td>
<td>£303</td>
<td>£303,000,000</td>
</tr>
<tr>
<td>1790</td>
<td>£360,000,000</td>
<td>£6,000,000</td>
<td>£366</td>
<td>£366,000,000</td>
</tr>
</tbody>
</table>

But since the time when this computation was made, a great difference in the value of money has taken place, which difference appears from the table of Mr. George Shuckburgh Evelyn, in the Philos. Trans. for 1798, part 1, page 177, to be in the proportion of about 5 to 14:1; and, therefore, the total wealth of England and Wales, in 1804, would have amounted to 750,000,000l. according to the present value of money.

The value of land has progressively increased, in consequence of improvements in cultivation, and the increased consumption of its produce, from 18 years' purchase, at which Mr. William Pettie rates it, to from 28 to 30 years' purchase. The whole landed rental of England and Wales, and the Low-lands of Scotland, was stated by this writer at about 9 millions; and if he had included the High-lands of Scotland, it is reasonable to suppose that he would not have made the whole rental of the island more than 95 millions. G. King and Dr. Davenant, in the reign of queen Anne, stated the rental of England and Wales at 14,000,000l.; about 25 years ago, it was generally reckoned at 25,000,000l.; but at present it considerably exceeds that sum. The cultivated land appears, from the statement of Mr. Middleton, in his "View of the Agriculture of the County of Middlesex," to be 59,027,500 acres, and the commons and waste-lands to be 7,889,000 acres: and, therefore, the total of acres in England and Wales amounts to 66,916,500 acres. If, therefore, we consider the commons and waste lands as equal in annual value to only one million of cultivated acres, the whole may be taken at 10 millions: and taking the average rent, which, at 15s. per acre, appears to be a moderate computation, at a tenth let, the amount may come to 27,000,000l. and the value at 28 years' purchase to 75,000,000l. The number of cultivated acres in Scotland is upwards of 12 millions, and of uncultivated acres upwards of 14 millions, which, being of little use, may be wholly excludéd; and the cultivated part, being rated at an average of 10s. per acre, yields the sum of 6,000,000l.  

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per annum: and the total rental of Great Britain will be 33,000,000l., and the value of the land, at 30 years' purchase, be 900,000,000l. Other writers have endeavoured to prove, (see Bache's "Observations on the Produce of the Income Tax," that in the whole extent of England and Wales there are no more than 38,500,000 acres of land; and that Scotland, with its adjacent islands, contains about 21 millions of acres. It is not so easy to ascertain the value of the houses as it is to determine the value of the land; but the following statement of their rent, founded on the numbers returned as chargeable and excused to the window duties, in England and Wales, in 1781, will not be thought too high:

<table>
<thead>
<tr>
<th>Number of cottages</th>
<th>£ 284,459</th>
</tr>
</thead>
<tbody>
<tr>
<td>per annum</td>
<td>206</td>
</tr>
<tr>
<td>Number of houses under 10 windows</td>
<td>2,489,005</td>
</tr>
<tr>
<td>per annum</td>
<td>497,861</td>
</tr>
<tr>
<td>Number of houses under 21 windows</td>
<td>2,567,655</td>
</tr>
<tr>
<td>per annum</td>
<td>171,177</td>
</tr>
<tr>
<td>Number of houses above 20 windows</td>
<td>1,004,920</td>
</tr>
<tr>
<td>per annum</td>
<td>554,373</td>
</tr>
<tr>
<td>Total</td>
<td>£ 7,436,093</td>
</tr>
</tbody>
</table>

The total rent, at 20 years' purchase, makes 148,720,536l. and including Scotland at less than a sixth of England and Wales, the whole will amount to 170,000,000l.

In order to form an idea of the value of cattle and farming stock, on the land, we may consider the black cattle and calves, sheep and lambs, swine, pigs, and poultry, annually consumed in London as worth 6,000,000l., which cannot be more than a seventh of the whole consumption, amounting therefore in value to 42,000,000l; but the whole number of cattle existing must be more than double the quantity brought to market; so that, including horses, affies, cows kept for milk, and oxen employed in agriculture, the whole value of the cattle cannot be less than 90,000,000l.

Taking the annual consumption of grain of all sorts at 14,000,000 quarters, which is probably below the truth, it may be presumed, that in general there is at least three or four months' supply on hand, which, at only 35s. per quarter, will amount to at least 6,125,000l. The value of hay and straw, and all kinds of fodder, and of all implements of husbandry, cannot be less than five or six millions, and with the former sum will make about 12,000,000l. The total value of cattle and farming stock is therefore 102,000,000l.; and if it is to be estimated as equal in value to only three times the yearly rent, it will amount to nearly this sum.

The value of the shipping belonging to Great Britain may be more accurately ascertained: for it appears that, in 1794, the tonnage of the vessels in the merchants' service was 1,589,162 tons; but taking it at 1,500,000l., at 8l. per ton, it makes 12,000,000l. and this is without doubt below the real value. In the year ending the 5th of January, 1824, the number of British ships entered inward was 11,396; their tonnage 1,614,355; and the number of foreign ships 4,252, and their tonnage 638,034; the number of British ships cleared outwards, was 3,662, and their tonnage 574,542; and the number of foreign ships 3,662, and their tonnage 574,542. The shipping of the navy may perhaps be estimated at 4,000,000l. making, with the former sum, 16,000,000l., to which some addition should be made for the value of the small craft employed on our rivers and canals.

The quantity of money in the country has, at different times, been a subject of dispute, and has never been determined with precision. However, by the re-coining in 1773, 1774, and 1776, it was found, that the value of the light gold delivered into the bank amounted to 15,503,593l.; and it was generally admitted that somewhat more than two millions of heavy guineas remained out in circulation, which, with the silver and copper coin, made the whole, at that time, about 20 millions, at which sum Mr. Chalmers estimated it in the year 1786. Mr. Grellet estimates it at about 25 millions.

Of the value of the merchandize and manufactures usually in the hands of the merchants, wholesale dealers, shop-keepers, and manufacturers, it is very difficult to form a satisfactory idea. The total amount of the exports in 1797 was 28,017,000l. and of imports 21,013,000l., according to the custom-house accounts; but these accounts being considerably below the true value, if we take the whole as rated only 60 per cent. under the value in 1800, the annual amount of foreign trade, estimated for that period, will be 79,888,000l. to which some addition should be made for smuggled goods. Mr. Pitt, in 1770, computed the imports at 25,000,000l. and the exports at more than 33,000,000l.; and in Feb. 1801, the foreign exports at 17,000,000l. and the domestic at 20,000,000l., amounting to a total of 37,000,000l. The official value of all imports, on an average of six years, ending the 5th of January, 1804, was 29,400,045l.; and the official value of British manufactures exported, on the same average to the same time, was 25,834,340l.; and real value 40,960,870l.; and the official value of foreign merchandise exported, on the same average, to the same time, was 15,233,500l.; and the real value 9,323,575l. It was the opinion of a numerous meeting of merchants in March, 1797, that there is always, at the least, two months' supply of export and import merchandise in the custody of the merchants and traders, which, according to the above total of 79,888,000l. will amount to 13,314,660l., to which some addition should be made for property in the hands of foreign merchants. But the value of goods in the hands of manufacturers and retail traders far exceeds this sum. The official value of British manufactures exported in 1798 was 19,771,510l.; but this being at least 71 per cent. below the real value, we may take the actual value, on an average of two years, at 31,356,793l., which, it is presumed, cannot be more than a third of the whole produce of our manufactures; and accordingly, this will amount to 94,079,379l. If we deduct 5,000,000l. for that small part which is supposed to be in the hands of the merchants, the remainder will be 89,079,379l. and of this it is probable that there is much more than three months' supply in the hands of the manufacturers and retail traders, which, estimated in this proportion, amounts to 22,267,594l.

As to the value of that part of the property of individuals which consists in household furniture, wearing apparel, provisions, fuel, carriages, &c. &c. we can recur only to conjecture; but it may be thought not to be over-rated at three times the yearly rent of the houses which contain it, or 26,026,000l. in the whole of Great Britain.

The following summmary will exhibit the results of the above estimates:

<table>
<thead>
<tr>
<th>Value of the land of Great Britain</th>
<th>£ 900,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houses</td>
<td>170,000,000</td>
</tr>
<tr>
<td>Cattle, and all kinds of farming stock</td>
<td>102,000,000</td>
</tr>
<tr>
<td>Shipping, navy, and merchant ships</td>
<td>16,000,000</td>
</tr>
<tr>
<td>Money</td>
<td>25,000,000</td>
</tr>
<tr>
<td>Goods in hands of merchants and wholesale dealers</td>
<td>3,134,000</td>
</tr>
<tr>
<td>Goods in hands of manufacturers and retail traders</td>
<td>3,226,700</td>
</tr>
<tr>
<td>Furniture, apparel, &amp;c.</td>
<td>26,026,000</td>
</tr>
<tr>
<td>Total</td>
<td>£ 1,364,607,000</td>
</tr>
</tbody>
</table>
From the above statement it appears that, since the year 1664, there has been an average gain of upwards of four millions per annum, of which a very considerable part has been derived, directly or indirectly, from foreign commerce. The great increase of the annual income affords a further proof that there must have been such an accumulating surplus. Sir W. Petty (Pol. Arith. p. 123.) supposed the income derived from land to be 8,000,000l. the profits of personal efates 8,000,000l. and the profits of all kinds of labour 26,000,000l., making together 44,000,000l. Mr. G. King estimated the whole income at 43,500,000l. Dr. Davenant, in 1701, states the income derived from land at 10,000,000l. the profits of trade at 6,000,000l. and those of sciences, arts, labour, industry, manufactures, retailing foreign goods, and buying and selling home commodities, at 33,000,000l. making in the whole 49,000,000l. These accounts are exclusive of Scotland; but after making a sufficient addition for this country, it will appear that there has been a considerable increase of the general income. Sir John Sinclair, in his "Hints addressed to the Public," in 1789, observed, that the income of the country arising from lands, commerce, and manufactures, was commonly calculated at 100,000,000l. which he inclined to think a low valuation; and, without doubt, the profit derived from late years from each of these sources has considerably increased. It is not easy to form a very precise estimate of the national income; but the following statement is presumed to be not very inaccurate:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>From rent of lands</td>
<td>£33,000,000</td>
</tr>
<tr>
<td>Ditto of houses</td>
<td>£8,500,000</td>
</tr>
<tr>
<td>Profits of farming, or the occupation of the land</td>
<td>£6,120,000</td>
</tr>
<tr>
<td>Income of labourers in agriculture</td>
<td>£15,000,000</td>
</tr>
<tr>
<td>Profits of mines, collieries, and inland navigations</td>
<td>£2,000,000</td>
</tr>
<tr>
<td>Profits of shipping in merchants' service, and small craft</td>
<td>£1,000,000</td>
</tr>
<tr>
<td>Income of flock-holders</td>
<td>£1,550,000</td>
</tr>
<tr>
<td>From mortgages, and other money lent on private securities</td>
<td>£3,000,000</td>
</tr>
<tr>
<td>Profits of foreign trade</td>
<td>£11,250,000</td>
</tr>
<tr>
<td>Ditto of manufactures</td>
<td>£14,100,000</td>
</tr>
<tr>
<td>Pay of the army and navy, and seamen in merchants' service</td>
<td>£4,500,000</td>
</tr>
<tr>
<td>Income of the clergy of all descriptions</td>
<td>£2,200,000</td>
</tr>
<tr>
<td>Income of the judges, and all subordinate officers of the law</td>
<td>£1,800,000</td>
</tr>
<tr>
<td>Professors, school-masters, tutors, &amp;c.</td>
<td>£600,000</td>
</tr>
<tr>
<td>Retail trades, not immediately connected with foreign trade or any manufacture</td>
<td>£8,000,000</td>
</tr>
<tr>
<td>Various other professions and employments</td>
<td>£2,000,000</td>
</tr>
<tr>
<td>Male and female servants</td>
<td>£2,000,000</td>
</tr>
</tbody>
</table>

Total: **£129,570,000**

If the total expenditure be estimated at 125,860,000l., which has been deduced from a minute, and, perhaps, as accurate a statement of particulars as the subject, admitting of various conjectures and presumptions, allows, the difference between this expenditure and the general income shews the annual gain of the country, or the sum applicable to the extension of commerce, the reservation of a greater quantity of foreign articles, the increase of shipping and buildings, agricultural or mechanical improvements, or other augmentations of the general flock.

On introducing the income-tax, Mr. Pitt, chancellor of the exchequer, gave the following estimate of the annual income of Great Britain:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>The land rental, after deducting one-fifth</td>
<td>£20,000,000</td>
</tr>
<tr>
<td>The tenants' rental of land, deducting two-thirds of the rack-rent</td>
<td>£6,000,000</td>
</tr>
<tr>
<td>The amount of tythes, deducting one-fifth</td>
<td>£4,000,000</td>
</tr>
<tr>
<td>The produce of mines, canal navigations, &amp;c. deducting one-fifth</td>
<td>£3,000,000</td>
</tr>
<tr>
<td>The rental of houses, deducting one-fifth</td>
<td>£5,000,000</td>
</tr>
<tr>
<td>The profits of professions</td>
<td>£2,000,000</td>
</tr>
<tr>
<td>The rent of Scotland, taking it at one-eighth of that of England</td>
<td>£5,000,000</td>
</tr>
<tr>
<td>The income of persons resident in Great Britain, drawn from professions beyond the seas</td>
<td>£5,000,000</td>
</tr>
<tr>
<td>The amount of annuities from the public funds, after deducting one-fifth for exemptions and modifications</td>
<td>£12,000,000</td>
</tr>
<tr>
<td>The profits on the capital, employed in our foreign commerce</td>
<td>£12,000,000</td>
</tr>
<tr>
<td>The profits on the capital employed in domestic trade, and the profits of skill and industry</td>
<td>£28,000,000</td>
</tr>
</tbody>
</table>

Total: **£102,000,000**

As one of the principal sources of the wealth of Great Britain consists in its manufactures, it may not be improper to give a brief statement of them; referring more copious detail for other articles in this dictionary, under which they will separately occur. The woollen manufacture deserves to be first mentioned, because it is the most ancient, and, in a variety of respects, the most important staple of the country. In an examination of the principal woollen manufactories by a committee of the house of commons not long ago, the quantity of wool grown in this country was estimated at 600,000 packs of 240lbs. each, which, valued at 11s. per pack, amount to 6,600,000l.: and though the increase of value of manufactured wool is various, and depends on its quality, yet it was estimated, that the total value of the wool manufacture in this country amounts to 19,800,000l. But the calculation supposes, that the number of sheep, in 1791, was 28,800,000, which exceeded the truth at that time, and much more since that period; and it was formed upon an unusually high price of wool. But the estimate will be much less objectionable, if it be formed on 500,000 packs at 10l. 10s. per pack, and thus the value of the wool will be 5,525,000l., and its manufactured value will be 15,500,000l. The average value of woollen goods exported for 1797, 1798, and 1799, is 6,104,211l. which, as the cullom-house values of goods exported are much below their real value, requires an addition of about 25 per cent. and thus it becomes 7,630,263l. The value of goods retained for home consumption will be nearly equal to that of such as are exported; and, therefore, the whole value of the manufacture appears to be about 15,260,000l. and may be taken, at a medium, between this sum and the former, at 15,500,000l. Deducting 10 per cent. on the cost of the goods, for the profits of the manufacturer, with interest of his capital, there will remain 14,090,901l. for the cost of materials and wages of labour; and as the value of the wool is about 5,250,000l.; the amount of workmanship, or the wages of all the persons employed in this manufacture, is 8,454,545l.; and the whole number of persons employed, averaging their wages at 8s. each per week, does not exceed 425,043.

The value of the leather manufacture may be estimated at 10,500,000l., from which deducting 954,545l. for the profits of the capital, and 3,500,000l. for the cost of the raw materials, the final gain appears to be 5,045,455l. The value of the linen manufacture is estimated at 10,000,000l., which, after deducting 954,545l. for the profits of the capital, and 3,500,000l. for the cost of the raw materials, the final gain appears to be 5,545,455l.
With respect to the first it is said, the total produce of pig-iron in Britain does not at present exceed 100,000 tons; and reckoning on an average, that 33 cwt. of crude iron produces one ton of bars, and that the manufacture of malleable iron amounts to 35,000 tons per annum, this branch will require 57,000 tons of crude iron; and the value in bars at 20l. a ton is 700,000l.; the remaining 42,500 tons, cast into cannon, cylinders, machinery, &c. at 14l. a ton, is worth 591,500l. The supply of foreign bar-iron is chiefly obtained from Russia and Sweden; and the quantity imported, on an average of 12 years, has been 44,135 tons, worth, at 22l. per ton, 970,000l., which, together with the former sums, amounts to 2,620,470l. Some years ago, the value of the iron manufacture was estimated at 8,700,000l.; but if this sum should appear too high, we may include tin and lead, and the value of the whole will probably amount to 10,000,000l., and the number of persons employed to 200,000.

The copper and brass manufactures are now established in this country. Till about the years 1720 or 1730, most of the copper and brass utensils used for culinary and other purposes in this country were imported from Hamburg and Holland, being procured from the manufactories of Germany; and even to late as the years 1745 and 1759, copper tea-kettles, saucepans, and pots of all sizes, were imported in large quantities. But the perfervishing industry, capitals, and enterprising spirit of our miners and manufacturers, these imports have become totally unnecessary; so that the articles are now all made here, and far better than any other country can produce. The discovery of new copper-mines in Derbyshire and Wales, about the year 1773, contributed to the extension of the manufacture in this country; and it appears to be still increasing, notwithstanding the late great advance in the price of copper. The value of wrought copper and brass, exported during the year 1799, was 1,222,185l.; and there is reason to believe, that the whole value of these manufactures at present is at least 3,500,000l., and the number of persons employed 60,000.

The steel, plating, and hard-ware manufactures, including the toy-trade, have been of late much extended, and may probably amount in value to 4,000,000l., and the persons employed to at least 70,000.

It is acknowledged, that many of these estimates must be essentially defective, from the want of public documents respecting many important branches of trade. However, they serve to shew, in a general view, the relative extent of our principal manufactures, as in the following summary:

<table>
<thead>
<tr>
<th>Manufacture</th>
<th>Value (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woollen</td>
<td>15,500,000</td>
</tr>
<tr>
<td>Leather</td>
<td>10,500,000</td>
</tr>
<tr>
<td>Cotton</td>
<td>9,500,000</td>
</tr>
<tr>
<td>Silk</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Linen and flax</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Hemp</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Paper</td>
<td>900,000</td>
</tr>
<tr>
<td>Glaze</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Pottery</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Iron, tin, and lead</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Copper and brass</td>
<td>3,500,000</td>
</tr>
<tr>
<td>Steel, plating, &amp;c.</td>
<td>4,000,000</td>
</tr>
</tbody>
</table>

£63,650,000 1,583,500

To the above enumerated manufactures of greater importance, we might have added those of hats, horns, fraw, &c. which taken together are of very considerable amount, and employ a great number of hands. There are also some, which, though not generally included among the manufactures,
The commerce of Great Britain extends through the eastern and western hemispheres of the globe, by means of the capital and credit of the country, the skill and industry of its artizans and manufacturers, the number of its ships and the character of its seamen, and the enterprising spirit as well as established reputation of its merchants. The number of registered vessels belonging to the British dominions, and employed in trade in 1802, was 20,676, their tonnage 2,128,055; and the number of seamen navigating the same, 154,530. In 1803, the number of vessels was 21,445; their tonnage 2,238,249; and the number of men 155,445; being an increase of 879 ships, of 110,194 tons, and of 915 men.

The following table will exhibit a complete view of British commerce solely from the port of London, for one year, ending Jan. 5, 1795, since which the commerce has increased.

<table>
<thead>
<tr>
<th>Names of the Countries</th>
<th>Value of Imports into London</th>
<th>Value of Exports from the Port of London, to Foreign Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£</td>
<td>d</td>
</tr>
<tr>
<td>Ireland</td>
<td>2,209,511</td>
<td>168,887 18 3</td>
</tr>
<tr>
<td>British West Indies</td>
<td>6,672,117</td>
<td>2,426,643 13 11</td>
</tr>
<tr>
<td>Conquered Islands</td>
<td>1,280,014</td>
<td>260,676 0 11</td>
</tr>
<tr>
<td>British American Colonies</td>
<td>397,412</td>
<td>64,384 19 4</td>
</tr>
<tr>
<td>Guernsey and Jersey</td>
<td>91,926</td>
<td>12,021 13 10</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>12,947</td>
<td>8,414 14 11</td>
</tr>
<tr>
<td>Honduras Bay</td>
<td>14,666</td>
<td>2,629 18 11</td>
</tr>
<tr>
<td>South Fithery</td>
<td>197,600</td>
<td>21 6 8</td>
</tr>
<tr>
<td>Afn, including East Indies</td>
<td>8,919,930</td>
<td>3,398,885 7 4</td>
</tr>
<tr>
<td>Africa</td>
<td>66,013</td>
<td>90,503 13 9</td>
</tr>
<tr>
<td>Turkey</td>
<td>641,566</td>
<td>32,065 12 0</td>
</tr>
<tr>
<td>Streights</td>
<td>8,399</td>
<td>3,420 17 11</td>
</tr>
<tr>
<td>Venice</td>
<td>82,167</td>
<td>80,830 18 9</td>
</tr>
<tr>
<td>Italy</td>
<td>1,215,011</td>
<td>203,666 4 4</td>
</tr>
<tr>
<td>Spain</td>
<td>1,675,607</td>
<td>181,780 6 2</td>
</tr>
<tr>
<td>Portugal</td>
<td>644,600</td>
<td>27,595 6 10</td>
</tr>
<tr>
<td>Madeira</td>
<td>7479</td>
<td>20,116 18 4</td>
</tr>
<tr>
<td>Canaries</td>
<td>6763</td>
<td>3,416 5 3</td>
</tr>
<tr>
<td>France</td>
<td>150</td>
<td>3,416 5 3</td>
</tr>
<tr>
<td>Austrian Flanders</td>
<td>137,249</td>
<td>129,413 9 7</td>
</tr>
<tr>
<td>Holland</td>
<td>1,235,515</td>
<td>114,458 3 7</td>
</tr>
<tr>
<td>Germany</td>
<td>1,289,307</td>
<td>1,014,324 18 10</td>
</tr>
<tr>
<td>Prussia</td>
<td>156,657</td>
<td>54,380 14 0</td>
</tr>
<tr>
<td>Poland</td>
<td>104,927</td>
<td>7,022 11 10</td>
</tr>
<tr>
<td>Sweden</td>
<td>262,747</td>
<td>33,845 5 6</td>
</tr>
<tr>
<td>Russia</td>
<td>1,269,688</td>
<td>95,519 8 8</td>
</tr>
<tr>
<td>Denmark and Norway</td>
<td>166,666</td>
<td>147,840 0 11</td>
</tr>
<tr>
<td>Greenland</td>
<td>267,513</td>
<td>54,509 19 8</td>
</tr>
<tr>
<td>United States of America</td>
<td>81,571</td>
<td>2,251,280 12 1</td>
</tr>
<tr>
<td>Florida</td>
<td>16,229</td>
<td>38,667 0 3</td>
</tr>
<tr>
<td>Foreign West Indies</td>
<td>56,240</td>
<td>1,567 13 10</td>
</tr>
<tr>
<td>Prize Goods</td>
<td>1,572,868</td>
<td>11,396,539 13 8</td>
</tr>
<tr>
<td>Total</td>
<td>29,706,476</td>
<td>14,208,925 14 6</td>
</tr>
</tbody>
</table>

RECAPITULATION.

The aggregate value of goods imported into London in one year - 29,706,476 17 4
British manufactures exported L. 11,396,539 13 8
Foreign merchandise, do. 14,208,925 14 6
Value of goods imported in upwards of 9000 coasting vessels, averaged at 5ool. each - 4,500,000 0 0
Value of goods exported coastwise, in about 7000 vessels, at 1000l. each - 7,000,000 0 0
Total amount of property shipped and unshipped in the river Thames, in the course of a year, estimated at 66,811,942 5 6
If we add to this climate, the accounts belonging to the other ports of Bristol, Liverpool, &c. the account must be enormous.

From the plains of North America are chiefly imported tobacco, rice, indigo, timber, hemp, flax, iron, pitch, tar, and lumber; from the West Indies, sugar, rum, cotton, coffee, ginger, pepper, guaiacum, farfapapilla, manchineal, muskogany, gums, &c.; from Africa, gold-dust, ivory, gums, &c.; from the East Indies and China, tea, rice, spices, drugs, colours, silk, cotton, saltpetre, shawls, and other products of the soil; from our remaining settlements in North America, furs, timber, pot-ash, iron; and from the various states of Europe, numerous articles of utility and of luxury. Pinkerton's Geog. vol. I. p. 100.

For other particulars relating to Great Britain, see Constitution, Debt, Fund, Parliament, Revenue, &c. See also England, Scotland, and Wales.

Britain, in History. It will be most fitting to the plan of this work, to divide the history of England into several branches, each of which may be consulted under the proper heads. These divisions will be,—the history of the island anterior to the Saxon invasion, which will be the subject of the present article;—the history of the Saxon or early from the invasion of the Saxon tribes to the period of the Norman conquest, which will be introduced under the word Saxons;—the history of England from the Norman conquest to the accession of James I., for which see the article England;—and the history from that period to the present times, which will be inferred under the same head. Scotland, Ireland, and Wales, will be separate subjects of history; and their transactions, so long as they continued independent nations, may be sought for under their respective names. So much as is necessary to be known of the history of the other British Isles, will be found under the articles of Heriades, Isle of Man, Orkneys, and Shetland. These different topics will comprise all that is material in the history of the British Isles.

It would give us very little trouble to flate the history of Britain anterior to the Saxon invasion, if we could adopt the account so popular among our ancestors, and give the fictions of Jeffry of Monmouth a place in our authentic annals. But Jeffry's history, though supported by the belief of most of the men of learning in the sixteenth century, by many in the seventeenth, and by some in the last, cannot for a moment be suffered to rank in our estimation as true history. We need not combat the tale by a profound disquisition: it has the merit of discrediting itself by its absurdities and improbabilities; and we might dismiss it into oblivion without another sentence, but that the public may be curious to know what sort of fiction it was, which was capable of interlacing our ancestors so much, and of seducing so many learned men to patronize and defend it.

After settling Ences in Italy, marrying him to Lavinia, and killing Taurans, in exact conformity to Virgil, Jeffry gives him one Sylvius for a grandson, whose friends, the magi of the day, oblige with a prophecy, that his name would be pronounced with a son, who would destroy both his father and mother, and after travelling over many countries in banishment, would at last arrive at the highest pitch of glory.

This unlucky lad was Brute, who killed his mother in his birth, and, at 15 years of age, completed the prediction by destroying his father. Being expelled Italy by his kinmen for the paricide, he went to Greece, and found the Trojans kept in slavery by one Pandraus, whom the author compliments with the title of king of the Grecians, but whom no Greek historian has ever acknowledged. Brute assembled the Trojans from all parts, and sent a letter to this Pandraus, affuring him that the Trojans would rather live after the manner of wild beasts on flesh and herbs with liberty, than enjoy the greatest luxury under his slavery.

Pandraus was forprized at this message; but he was ignorant that he had to do with a hero whom his historian had determined to make an infallible conqueror. It was, therefore, in vain he befieged a town called Spartanum, the situation of which only Jeffry knew, but with which he has forgotten to acquaint us; for though he outnumbered the Trojans so much that their brave commander dashed a pitched battle, yet Brute contrives a stratagem to enter their camp at night, deceive the watch, and kill them all in their sleep. He accomplishes all this as easily as he conceived it. Pandraus is taken prisoner; his army annihilated. A consultation is held to consider what is to be done with the captive; and it is a rule with Jeffry to detail the very words of every conversation, the speeches are again recited at full length; and Pandraus is liberated on condition of giving Brute his daughter Igogo for wife, with plenty of gold, silver, ships, corn, wine, and oil, and also permission to remove to some other country.

With his new wife and 324 ships, and after many fivens on the part of Igogo, and many knifes on the part of Brute, "which the grief of all the world grew weary of crying, and fell asleep," he fell fast, and two days afterwards came to an uninhabited island, in which was a convenient temple of Diana, and a statue of the goddes, that kindly gave answers to all who consulted her. In fix very pretty lines, which Milton thinks too good for the age of the translator, he affes her whither they were to go, though a reasonable man would have formed some notion of that before he had set out, and have trusted to the vague chance of a deserted island and a priestless oracle.

After repeating the words exactly nineteen times, and walking four times round the altar, and laying himself before it upon the skin of a white hart, he fell asleep. About the third hour of the night (for Jeffry is very particular in circumstance, though the incident is placed about 2000 years before him), about the third hour of the night, "the usual hour for deep sleep," apparitions, and visions, the goddes in person appeared to the Trojan, and in eight lines as harmonious as his own, informs him, that beyond Gaul there was an island in the west, formerly occupied by giants, but then deferted, where he should find another Troy, and a race of kings, by whom all the world should be subdued.

With this answer, but without being made much wiser by it, for Brute knew as much about Paradise as about Gaul, they put to sea again in a westward course, and in 30 days came to Africa, being ignorant as yet whither to steer. At last they reached the freights of Gibraltar, after great danger from pirates, where their ship had nearly been overturned by those sea-monsters called Syrens. However, they made a shift to escape, and contrary by advancing till to the west, for no retrograde course is mentioned, to get into the Tyrrenian sea, though, unfortunately for accurate geography, this sea, instead of being near Spain, or beyond it, is in the direct contrary course, because it washes the lower part of Italy. But be this as it may, here they pick up some Trojans, whose general was Corineus. This was a very model man, but withal so courageous, "that if he encountered with any giant, he would immediately overthrow him, as if he had been a child."

From this Tyrrhenian sea they reached the Lober, as suddenly as if Jeffry had fapposed they were close together. In vain all the kings and princes of Gaul united against the invaders; for they, whom some pirates had greatly endangered, and some Syrens had nearly drowned, now defeat all the confederated Gauls, burn their cities, lay waste their fields, and make "dijmal slaughter among the people, being unwilling
unwilling to leave so much as one alive of all that wretched nation.” After these humane exertions, “they build towns, as Homer tells us,” in some work to Homer and to us equally unknown; and then doubting if it were prudent to fight there any more, they fall to Britain, the promised land, and arrive at Totnes.

A new train of miracles begins; and, indeed, a little impertinence exhibited by Jeffrey, for the gods told Brute, that this island had formerly been inhabited by giants, but was now deserted; yet, in contradiction to the divine assertion, the daring monks, in the sixteenth chapter, peoples it, though thinly, with giants still.

However, at their coming, away fly the giants to their caves, to the great detriment of Corineus, “to whom it was the greatest possible diversion to encounter them.” To indulge his favourite inclination, he begins “the story of Cornwall for his sake, because the giants were in greater number there, than in all the other provinces.” Brutus obliges him: and an opportunity soon arrives to make Corineus very happy.

“Among the rest there was one detestable monster, named Goemagot, in stature 12 cubits (or about 18 feet high), and of such prodigious strength, that at one shock he would pull up an oak, as if it had been an apple-wood. One day, when Brute was at Totnes, this fellow, and 20 more of his companions, fell upon the new-comers, among whom they made a dreadful slaughter.” This was precisely what Corineus wanted; and as for the other twenty were soon dispatched, Brutus ordered “Goemagot to be preserved alive, out of a desire to see a combat between him and Corineus, who took vast pleasure in such encounters.”

“Overjoyed at this, Corineus threw aside his arms, and challenged the giant to a wrestling match;” but a Cornish hug from the Gobha of Cornwall soon broke three of Corineus’s ribs, which, we are very circumstantially told, were two on his right side, and one upon his left. But this accident, instead of disabling, “enraged Corineus to such a degree,” that though once mentioned but as a mortal man, and of mortal size, he seized hold of this tremendous giant, “threw him over his shoulders as if he had been an hare, ran with him as fast as he was able for the weight to the next shore, nay, got even up to the top of a very high rock, and there hurled down the savage monster into the sea.” “The place where he fell,” adds Jeffrey, “is called Goemagot’s leap to this day.”

The above circumstances present a faithful abridgment of the first sixteen chapters of this ancient history. The first patrons of “The British History” defended all its airy. The later advocates allow it to contain a few hyperbolies, but warmly maintain that it ought not to be wholly rejected on this account. But, unfortunately, the whole history is in this strain; of this only a few more brief specimens need be given.

Brennus, who besieged Rome at the head of the Gauls, when Camillus and the greece faved the capital, was, according to this history, a Briton; and his brother Belinus, then king of Britain, was with him. Conan, king of America, wanting wives for his soldiers, asks the king of Cornwall for some, who lends him 11,000 daughters of his nobility, and 69,000 of a meaner sort. The greater part of these are drowned; the rest are murdered. The magi commanded Vortigern to find a youth who had never had a father, and Merlin is accordingly brought, whose mother had a miraculous conception from a demon. The king cannot build a tower, because it is swallowed up as fast as it is raised. Merlin foretells, that there is a pond deep under the ground, which occasions it, and that at the bottom of it are two hollow stones, in which two dragons are asleep. Utter Pen-
dragon, to gratify his passion for Igera, is transformed by Merlin into the figure of her husband. To crown the whole, Cadwalllo being told on a certain island, and longing for venison, his servant Brian goes in search of same, but finding none, he cuts out a piece of his own thigh, which he roasts upon a spit, and carries to his master as venison!!! Whatever may have been the prejudices of former times in favour of the book, every reader will now treat it with derision, though he may not chuse to adapt the quaint paraphrase of the Dutchman, who called it a “groote, grove, lange, dicke, raflclieke, ende unbehafjme logen,” which in plain English is, a great, heavy, long, thick, palatable, and shameless lie.

The account of Brutus and his Trojans having colonized Britain, was in excelsis before Jeffrey. It appears in Nennius, who lived about, or before, the ninth century: his preface is a triumph to the advocates of the Trojan, because it announces that he had taken his history not only from the Roman annals, the chronicles of the holy fathers, and the histories of the Scots and Saxons, but also from the traditions of his ancestors, and from the monuments of the ancient inhabitants of Britain. On inspecting his history, it is curious to remark to what sources he refers his several incidents. The tale of Brutus is from the annals of the Romans; and his genealogy up to Aeneas, thence to Noah, and thence to Adam, was furnished to the chonographer by the traditions and writings of those who first inhabited Britain. Unfortunately for the tale, no Roman annals that we know of have sanctioned the history of Brutus; and we may be allowed to deny that the Druids had any acquaintance with the Jewish scriptures.

Of other romances on this remote part of our history; the dishonest forgery of Annius of Viterbo, who made certain annals of Beroth and others, in which Samothes, the son of Japhet, is said to have led a Celtic colony into Britain; of Albion, a giant, who was sent after Samothes to give it a name; of the visits of Hercules and Ulysses; of Albina, the princes of Syria, and her thirty filters, committed to the mercy of the sea for murdering their husbands, who were thrown providentially on England; of Celto, the daughter of Britannus; of Britannus, the grand son of Nemeth, who brought a colony here out of Ireland, and of such like wild and absurd inventions, we need only say that they are fit to class with the history of Jeffrey, and may be permitted to repose in oblivion, as proper companions to his Brutus and Corineus. To the same grave may be consigned all those writers who have wasted their time in deriving the Britons from Japhet, from Gomer, from Javan, from Thiras, from Alkenaz, or from Sheem. Such derivations are as unreasonable as the speculation of the man who affirmed that the earth was divided between the three sons of one father, as a typical representative of the divine Trinity.

The only account that can be fully relied on for the early history of the European nations, are those which the Roman and Grecian writers have transmitted to us. Even their statements frequently demand our criticism, but we must dig for truth in their mines.

From the extent of geographical knowledge which Homer displays, we might not unreasonably expect to find some allusion to the British isles in his works; but although he mentions with familiarity Italy, Sicily, Greece, Thessaly, Epirus, with some adjacent countries, and by Strabo and later authors, has been thought to allude to Spain, no other part of Europe is explicitly commenorated in his Epopees.

One of the oldest Greek books which contains any allusion to the British isles, is the Argonautica ascribed to Orpheus. The celebrated person of this name lived ante-
rior to Homer; but the poems that pafs under his name, are by Sinidas and Stobaeus attributed to a man whom they call Orpheus the younger, and whom others name Onomacritus. He has been referred to the times of Pusiratus, or about 360 years before Christ.

This poem is curious as a specimen of the geographical opinions which the author and his contemporaries entertained of the western part of Europe. It was a voyage from Thelifa to Colchis on the eastern part of the Euxine. But the part most interesting to us, is the manner in which these adventures are related to have returned home; for, instead of tracing back their course to Colchis, the difference of which was comparatively small, they fail to the Pals Mootis, or Sea of Aephus, thence up the lands to the northern ocean, and, after circumnavigating Europe, arrived at last at their destined port. So little was Europe known at this early period, that it was fancied to have been possible to have failed from the Euxine sea into the Hyperborean ocean.

Whoever reads this composition, from verse 1573 to 1597, though he may be entertained with the romantic fable of the Macedonians, who are seated in the icy ocean, and who, after living 1000 years in the most active exertions of wisdom and justice, void of labor and law, sink from uninterrupted felicity, into a gentle, but perpetual sleep; yet he will need no further evidence to convince him, that the author was wholly ignorant of the continent of Europe. It is indeed singular, that he mentions the island Lernida, which is presumed to be Ireland, and which the Argonauts pass with apprehension in their voyage from the North sea. But this is not mentioned with the accuracy of a man who knew what he was writing about, or else Britain, and not Ireland, would have been commemorated; for though Camden thinks that the island next mentioned under the name of HXARMZQ, or Piccis Obitan, was Britain, this cannot be the fault, because, after they had left Lernida, they were tossed by a furious tempest for twelve days before Lynceus discerned the island HXARMZQ. It is remarkable, that in opposition to all the mythologists, the author makes this island in the Atlantic to have been the residence of Ceres, and the place from which Proserpine was carried off by Pluto. With equal peculiarity he makes another island in the same sea, which he calls AXXAROC YSYPN; and which Camden, by a strange error, thought to be the same as the former, though three days fail from the habitation of Circe. The geographical mistakes of this author are worthy of notice, because the man who aspired to write in the celebrated name of Orpheus, is not likely to have been the most ignorant of his contemporaries.

About 450 years before Christ, Herodotus, the father of history, flourished. Greece was then so delitute of knowledge, that, like many of his countrymen who possessed activity and energy of intellect, he travelled to Tyre, Egypt, and Affria, in search of the information which these countries in his days almost exclusively possessed. His composition seems to indicate that he made geographical subjects a principal object of inquiry; and he sought for it at those places where it was most likely to be obtained. The situation of Greece, which on its eastern side lies parallel with Asia Minor, and had frequent intercourse with Egypt, Phocia, Sicily, and that part of the Italian peninsula which now composes the kingdom of Naples, introduced him to an acquaintance with the three continents. It is therefore, if anywhere, in his works, that we may reasonably expect to find the most accurate collection of the facts which were then known concerning the population of Europe, and of the British isles.

But when we take up the history of Herodotus, which gained the Olympic laurel, we perceive that no regions were at that time known, (with only one exception, which we shall hereafter notice,) except those which military horrors had explored. He is accurate about the tribes or nations that swarmed round the western shores of the Euxine from the modern Constaninople to the sea of Aephus; because Darius had professed a wild expedition against the Seythians who dwelt there. But the historian fails where the Persian depot was checked; and, if he indulges some hasty excursions beyond, it is only to repeat tales to abound, that the credit of his whole history has been impeached from his Seythic reveries. In other parts of the world, wherever the nations warred whose traditions he records, he seems anxious to be minute and faithful; but every other country which the glister of arms had not revealed, he did not consider, because he was unable to describe.

It is, perhaps, from this circumstance, that when we turn from Greece, and the adjacent kingdoms, and extend with national partiality our view westward over the regions, now divided into Spain, France, Germany, the Northern empire, and the British isles, we find the historian lamenting, but ingenuously confessing, the puerility of his information.

"I have nothing certain to relate concerning the western boundaries of Europe. I know as little of the islands called Calisctrides, from the tin which is thence imported among us; and though I have diligently inquired, yet have I never seen any man who by his own experience could inform me of the nature of that sea which bounds the extremities of Europe; however, it is certain that amber and tin come from its remotest parts." The ignorance of Herodotus must have been the ignorance of his age; for it seems to have by no means proceeded from his neglect of inquiry. "Europe has not been fully discovered by any man; and we have no account whether it be bounded on the north and east side by the sea." About 120 years after Herodotus, the preceptor of Alexander flourished, who reigned for so many ages in Europe the monarch of metaphysics. A treatise has been preferred to us, which is usually attributed to him; but to which his right has been disputed by men whose erudition is formidable enough to leave the question undecided, even by those whom their arguments may not convince. If the circumstance that affords the claim of Arifiotle appeared unsatisfactory to the two Scaligers, to Cafabon, Salinasius, Menage, Volfius, and others, we cannot but be, at least, doubtful on the subject. By these gentlemen it has been given to Theophratus, or to Anaximenes of Lampfchus, or to the roie Pofidonius. But whether the book "De Mundo" be the composition of Arifiotle, or of some of his contemporaries, or of his immediate succeffors, or even of later writers, it is, under every opinion, a proper subject for our present consideration. It seems to be a physiologish account of the universe; but it also contains a very rapid and concise survey of the geography of the world. If it was written in the age of Arifiotle, it will shew how little the geographers of those times knew. If it be of later date, it will prove that lapse of time gave no increase of knowledge.

After a singular conjecture, which Columbus has since happily demonstrated to be jurt, that beyond the Atlantic there were other continents, some larger, some smaller than our own, he describes the coasts which the ocean, as he thought, walked; and after conducing the sea from the westward through the straits of Gibraltar to the Propontis, he states its progress from the eastern regions. He tells us, that it comes towards the Gallic gulf, and thence to the columns of Hercules.

"In this sea are two islands, called P. PHXARAZ, AX[O]X [O]X [O]." They are directly above the Celts."

These
These curious passages deserve a moment's consideration. Of Europe this geographer knew that the northern parts were inhabited by the Scythians, and the western by the Celts; and that beyond the Celts were two islands called Bretanikai, whose names were Albion and Henra. This is the earliest author in which the British islands are explicitly named.

That the British islands were known to the ancient world long before the time of Caesar, may be inferred from the passage in Polybius, which mentions them. This author lived about 205 years before the Christian era. He enjoyed the confidence of Scipio and Lelius; and when he determined to write history, he made many journeys to the parts which he intended to describe.

In the latter part of his third book, he promised to write concerning the British races, the British islands, and the making of tin. Unfortunately for our curiosity, this treatise has not reached us. It is certain that he composed it, because Strabo mentions his discussions concerning Britain. Three other Greeks also wrote concerning Britain. These were Pytheas, Diacerehus, and the celebrated Eratosthenes, who all lived anterior to Polybius, and whose opinions about our island Polybius compared and disputed.

Thus we find that Britain was an island which had obtained much notice among the Greeks. We may also perceive, from some intimations of the classical writers, that the British islands had been discovered and visited by the Phenicians and Carthaginians.

There seems to be no reason to doubt that the Caffiterides were another name for the British islands. Pliny says, that Midaerus first brought tin from these islands; and Strabo acquaints us, that the Phenicians had been long accustomed to visit the Caffiterides from Spain for the sake of that metal; but concealing their course from others. He gives a striking instance of their effort to conceal the navigation to our islands. When the Romans followed a Phenician ship bound thither, the express purpose of discovering the market, the master ran his ship ashore, and destroyed it, rather than let them trace his course; and he was indemnified by his countrymen for the loss out of the public treasury. But the Romans, by frequent attempts, at last obtained the knowledge which they sought.

Bochart derives Bretanikai, the Greek name for Britain, from the Phenician or Hebrew words בִּיטְנַן, Baránnai, the land of tin. Caffiterides, the Greek for tin, from which the islands were called Caffiterides, he also compares, with much ingenuity, with the Chaldee Kifiria and Kifîra, by which the Targums of Jonathan and Jerusalem render the Greek word γασπρονος.

It was the invasion of Cæsar, about 54 years before Christ, which brought the Romans first acquainted with the natives of Britain. Cæsar, ambitious of attaining the highest distinction in the Roman state, applied himself to warfare, as the surest means of raising an exalted reputation, and of creating a solid power. With this view, he attacked and conquered the Gauls; and in prosecution of the same purpose he invaded Britain.

Not being well acquainted with the harbours of the island, he sent C. Voluminus in a vessel to explore them. The natives, at first alarmed at his preparations and threats, sent overtures of peace. Cæsar received them civilly, but perfused in his invasion. After five days absence, Voluminus arrived at Cæsar's flotilla, and reported his observations.

Cæsar embarked two legions of foot in about eighty transports; and with these, and eighteen more for the relief of his army, he sailed towards Britain.

He arrived at a part inconvenient for landing from its mountainous aspect, and beheld the rocks covered with the armed inhabitants. He remained five hours at anchor, waiting for the arrival of his whole force; and when the wind and tide favored, he sailed out about eight miles farther to a plain and open shore.

The Britons sent their horse and chariots to oppose his landing, and all their forces followed. A severe contest ensued. The Roman vessels were too large for the shallow sea, and their soldiers were obliged to leap into the waves in unknown places, and with heavy armour, and to conflict with the active natives, who were well acquainted with the coast, and zealous in their opposition. At first the Roman galleys brought their engines to bear against the Britons. Their appearance and effect checked the brave savages, and the standard-bearer of the tenth legion, at that critical moment, rushing with his eagle towards the enemy, the Romans followed with new courage, and, after a desperate struggle, compelled the Britons to retire.

This defeat occasioned new proposals of pacification, which were broken, and the struggle recommenced. The Britons were repulsed again, but Cæsar chose to abandon all further efforts to conquer the island, and returned to the continent.

In the following year he invaded the island again. The natives vigorously opposed him under the command of Cassivellaunus. They experienced defeats, but their resistance was too fierce for the Roman arms to support, and Cæsar again withdrew from the island, having shewn the island to the Romans (says Tacitus) but not having conquered it.

The Britons remained unmolested by any attacks from the Romans till the reign of Claudius, at which period, unfortunately for their independence, but perhaps happily for their civilization, they were invaded by Attales Pannias. Divided by civil feuds, and no longer opposing to the Romans that union of will and power by which they had baffled the genius of Cæsar, the separate exertions of their various tribes were generally disunited, and the struggle ended in the complete conquest of the island. The events of this conflict are chiefly recorded at great length by Tacitus, and are too familiarly known to us to be recited here.

In the third and fourth centuries Britain gave some disturbance to the Roman empire, by the turbulence of that part of the Roman army which was stationed within it. At various intervals they made some of their favourite officers emperors, who contended for the purple with the other competitors. In these centuries Britain was much disquieted by the inroads of the Frisii and Scots on the north and west, and by the Franks and Saxons from the sea. At last the barbarians pressed so vigorously on the Roman empire, that the Roman forces were compelled to abandon Britain in 409, and the island for a short time recovered its independence, to lose it again on the triumphal invasions of the Saxons. See Saxons.

Britain, New, in Geography, an appellation which has been appropriated, by some geographers, to the most northern regions towards Hudson's Bay, and the coast of Labrador; and comprehending the whole tract of country that lies north of Canada, commonly called the Esquimaux country, including Labrador, New North and South Wales; said to be 8,500 miles long and 7,500 broad. This is in general a mountainous, frozen, and barren country; abounding with lakes, rivers, and bays, that furnish plenty of fish. The fisheries and the fur-trade are the only products of this country that render it valuable. It is very thinly inhabited by people resembling the Laplanders, and the other nations in the north-western parts of Europe, from whence their ancestors probably migrated. But the name of New Britain is not admitted in French or English maps. See Hudson's Bay, and Labrador.

Britain, New, an island, or rather a group of islands, in the Pacific ocean, being a part of that extensive tract denominated...
BRITISH PLAGUE, in Medicine. See Sweating-Sickness.

BRITANNICA, in Botany. See Rumex Aquaticus, or Hydropsyphium.

BRITANNICO, John, in Biography, an eminent Italian scholar of the 15th century, was born in the Brevenien territory, of a family originally from Great Britain; and having studied at Padua about the year 1470, kept school at Brescia, and distinguished himself by several learned annotations on various classical authors, particularly Juvenal, Horace, Persius, and Statius in his Achilleide. He also wrote grammatical and other treatises, and an apology on Bartholomeo Catanien. He is supposed not to have long survived the year 1518, and did not live to publish his notes upon Pliny's Natural History.

BRITANICUS Codex Erofimi, in Biblical History, a MS. copy of the New Testament, which is one of the two MSS. (the Codex Ravinius being the other) that contain the disputed passage of the three that bear record in heaven, 1 John, v. 7. This MS. is probably the same with that called Montfortianus and Dublinensis, noted in the first part of Wetten's N. T. in the second 40, and in the third 34. It is of the 12mo size, contains the whole N. T., is written on a thick glazed paper, and not on vellum, in a modern hand, and is probably of the 16th century. Mill states, that it belonged originally to one Froi, a Franciscan friar, who possessed it either about or before the middle of the 16th century; a few years previous to which period, that is, between 1519 and 1522, it was known to Erasmus by the name of "Codex Britannicus." From Froi it came into the possession of Thomas Clement, probably a doctor of philosophy and medicine in England; from him it came into the hands of William Chare, a learned Greek scholar; after Chare, it was possessed by Dr. Thomas Montfort, and from him it took its name, because it belonged to him when it was collated for the London Polyglot; and since the time of Ulber, who had it after Montfort, it has been preferred in the library of Trinity-college in Dublin, where it is noted C. 97; and hence it is sometimes called Dublinensis. As Erasmus, in the two first editions of his Greek Testament, omitted: John, v. 7, but in the later editions inserted it, because he had found it, as he relates, in a Codex Britannicus, it has been concluded, with a very great degree of probability, that the Montfortianus is the same as the Britannicus of Erasmus; because, though every MS. in Great Britain has been carefully searched, this is the only one which contains the passage in question. In proof of this it is strongly urged, that the text of the third edition of Erasmus, in 1522, differs in this interpolated passage from all other editions, except those which were immediately copied from it, and at the same time agrees word for word with the Codex Montfortianus. Although no critic would describe a high antiquity to the Cod. Montf., we have no reason to suspect that it is a mere transcript from the Complutian Polyglot, which is said to be the only one with respect to the Codex Ravius. For the difference is strongly marked in numerous passages, and even the text in question, for which this MS. is famous, is not the same as in that Polyglot. Erasmus describes the Codex Britannicus as a Latinizing MS.; and Wetstein entertains the same opinion with regard to the Montfortianus, of which the passage in question, 1 John, v. 7, affords the strongest proof; for in the Cod. Montf. it not only differs from the usual text, but is written in such Greek as manifestly betrays a translation from the Latin. For the satisfaction of those who may not have access to other means of information, we shall give it below, with all the abbreviations, as it is given by Travis, in his letters to Gibbon, p. 152.

Here the article is omitted before the words expressive of Father, Son, and Holy Ghost, because there is no article in the Latin, and it occurred not to the translator, that the usual Greek was οὐκ ἐστιν ὑμῖν τῆς θεότητος. He has also in τοῦ θεοῦ, which is it seen Greek, for τοῦ ἁγίου, because he found in the Latin, in terra. He has likewise omitted καὶ ὁ θεός ὑμῶν, to ἔστι τῆς θεότητος, which is wanting in many Latin MSS. because the Latin council, held in 1215, had rejected it through political motives. The omission of this clause at the end of the 6th verse proves, not only that the writer of the Codex Montfortianus copied from the Vulgate, because no ancient Greek MS. omits the clause in that place, but that he copied even from modern transcripts of the Vulgate, because this final clause is found in all the MSS. of the Vulgate, written before the 15th century. It is therefore added, that ὁ θεός ὑμῶν, in the 6th verse, is altered to κυρίος, because chrissus is the reading of the Vulgate, though it is not found in any Greek MS. Besides, in this MS. the Latin arrangement is observed with regard to the division of the text into chapters, though at the same time the καθαρσία of Eusebius are noted. This Latin arrangement was introduced by Hugo de S. Caro, in the 12th century, and is that of our printed Bibles; but though observed in the modern MSS. of the Vulgate, it was in general not admitted into the Greek MSS. which adhered to the καθαρσία of Eusebius. Its admission, therefore, into the Codex Montf. not only shews what influence the Vulgate has had in this MS.; but proves, at the same time, independently of other arguments, that the Codex Montf. is very modern. For no Greek MS. is known, in which the text is divided into our present chapters, that was written before the 15th century; when the Greeks, who fled from their own country into the west of Europe, became transcribers for the members of the Latin church, and of course adopted the Latin divisions. Moreover, the dots over the 1 and 7, which have been urged in favour of the antiquity of this MS. on the authority of Montfaucon, who, in his
"Paleographia," had said that these dots were in use a thousand years ago, are likewise used in the most modern MSS. (see the same Paleographia, p. 324, 338.) and therefore, so far from being a proof of antiquity, they are used as an argument to prove, that the Cod. Montf. is very modern. No one MS. written in small letters, among the specimens produced by Montfacon, before the 12th century, has these dots. As these letters, a and e, are always dotted in the Cod. Montf., but not always in the MSS. of the 13th and 14th centuries, and still less often in those of the 15th century, we may infer that the Codex Montfortianus is at least as modern as the 15th century. Michelacci's Int. to the N. T. by Math, vol. ii.

BRITAIN, or BRETAGNIE, in Geography, was, before the revolution, a considerable province of France, with the title of a duchy, reunited to the crown by Francis I. in 1533. It derived its name from the Britons, by whom it was chiefly inhabited, when they were driven from their own country by the Saxons, and fought refuge in that part of Gaul called Armorica, which fec. This province forms a kind of peninsula, bounded on the north, west, and south by the sea, and on the east by Maine and Anjou. Its mean length is estimated at 57 leagues, and its breadth at about 53 leagues; its extent of coast was computed at about 150 leagues, containing a considerable number of bays and good ports. Its navigable rivers are the Loire and the Vilaine, united by the Durance, by means of a canal between Rennes and Dijon. The other rivers are the Ardre, the Ille, the Men, the Borneau, the Claye, and the Adon, which discharge themselves into the ocean. The climate is temperate; and the soil, which is generally gravel or gravelly sand, with low ridges of granite, is diversified with hills and plains; and extensive heaths, resembling Cornwall in its appearance, in some places covered with woods of oak, and in others well cultivated, and producing wheat, hemp, flax, &c. Numerous herds of cattle are bred and fattened in the pastures; game and fish are plentiful; cider is the ordinary drink of the inhabitants, and some parts produce wines and brandy. In some districts of this province there are mineral springs, and mines of iron, lead, and coal. The character of the Britons is rough and choleric; but they are brave, good soldiers, and excellent seamen. The commerce of this province is considerable, and consists of a variety of articles, recited under its principal towns. By the new arrangement, Bretagne forms the departments of the Ille and Vilaine, the North-coasts, Finistere, Morbihan, and Lower Loire.

BRITSE, in Agriculture, a term applied to slips, when they are over-ripe or shatter; in which case they are said to be bris.

BRITISH, in Geography, a term applied to slips, when they are over-ripe or shatter; in which case they are said to be bris.

BRITISH AMERICA, in Geography. See America.

BRITISH Coin. See Coin.

BRITISH Constitution. See Constitution.


BRITISH ISLANDS, in Geography, are those which are adjacent to the British coasts, and subject to the crown of Great Britain. Of these a geographical description, and other particulars relating to them, will be found under their respective names. We shall here only observe, that some of them, as the Isle of Wight, of Portland, of Thanet, &c. are comprised in some adjoining country, and are therefore to be looked upon, in a legal point of view, as annexed to the mother island, and part of the kingdom of England. As to others that require more particular consideration, see Isle of Man, Alderney, &c.

BRITISH Language. The language of the ancient Britons, when they were first invaded by the Romans, was a dialect of the Celtic; which had been the language of all the nations of Europe defended from Gomer, and still continued to be spoken by the people of Gaul, and several other countries. This is undoubtedly evident (says Dr. Henley,Hist. vol. ii. p. 336,) from the nature and reason of things; from the testimony of ancient authors; from the names of rivers, lakes, mountains, &c. in Britain being significant and descriptive in the Celtic tongue; and from the remains of that most ancient and venerable language in some parts of Britain, as well as in some countries on the continent. See WALES.

BRITO, BERNARDE, in Biography, a Portuguese historian and elegant writer, was born at Almeida in 1569, and having entered into the order of Cistercians, was sent to pursue his studies in Italy. On his return he was appointed principal historiographer for Portugal, and was the first writer who undertook a general history of that country; of which, under the title of "Monarchia Lusitana," he published one volume in 1597, and a second in 1609. The work was continued by fathers Antony and Francis Brandano to seven volumes folio; the last of which was printed at Lisbon in 1612. Brito also wrote "Eulogies of the Kings of Portugal, with their Portraits," "Ancient Geography of Portugal," and "Chronicle of the Cistercian Order." He died in 1617. Nov. Diel. Brit.

BRITOLAGAE, in Ancient Geography, a people who, according to Ptolemy, inhabited Lower Maha, towards the mouth of the Danube.

BRITTON, in Geography, an island in the Frozen Ocean, near the south-west coast of Nova-Zembla. N. lat. 71° 30'. E. long. 55° 14'.

BRITTLENESS, in Natural Philosophy, that quality of bodies by which they are soon and easily broken by pressure or percussion. It is opposed to tenacity.

Brittle bodies are extremely hard; the least percussion effects a force on them equivalent to the greatest pressure, and may consequently easily break them. This effect is particularly remarkable in glass suddenly cooled, the brittleness of which is thereby much increased. Tin, though in itself tough, gives a brittleness to all the other metals, when mixed therewith. The brittleness of glass seems to arise from the heterogeneity of the parts whereof it is composed, salt and sand, which can never bind intimately together.

In timber, brittleness seems to be connected with durability; the more brittle any sort of wood is, the more liable it is found. Thus it is oak is of fo long duration, while beech and birch, as being tough, presently rot, and are of little service for building.

BRITTLENESS of the hoof, in horses. See HOOF.

BRITTON, THOMAS, in Biography, the musical small-coal man. This was an ingenious, inofficious, and humble man, of a profession which no longer subsists. Not only the use, but even the name of small-coal is hardly known at present. Dr. Johnson defines it: "Small-coal, little wood coals, used to light fires;" and illustrates the word from the Spectator, and Gay.

"A small-coal man, by waking one of these dilligent gentlemen, faved him from ten years imprisonment." Spectator.

"When small-coal murmurs in the hoarser throat, From smutty dangers guard thy threatened coat." Gay's Trium.

In our own memory, small-coal was daily cried about the streets, and of general use in the capital at least, in kindling fires.

Britton was a great favourite of Harenne, the antiquary, whom he much resembled in his fondness for old things, and who has given a long account of him in the appendix to "Homing! Chartularium Eccleie Wigorinii," and informs us, that Britton was born at or near Higham Fizzeys, in Northamptonshire, from which place he went to London, where he bound himself apprentice to a small-coal man. After he had served his full time of seven years, his master gave
give him a sum of money not to set up. Upon this, Tom
went into Northamptonshire again, and after he had spent
his money, he returned, and set up a small-coal trade,
though his matter was still living, taking a stall in Clerk-
swell, which he turned into a house. This seems the
only diabolical action with which Tom could ever be
charged.

Some time after he had been settled in business here, he
became acquainted with Dr. Garanciere, his neighbour, an
eminent chemist, who admitting him into his laboratory,
Tom, with the doctor's consent, and his own observation,
soon became a notable chemist, contrived, and built himself
a moving laboratory, in which, according to Hearne, "he
performed with little expense and trouble, such things as
had never been done before."

Besides his great skill in chemistry, he became a practical,
and, as was thought, a theoretical musician. Tradition
only informs us, that he was very fond of music, and
that he was able to perform on the viol da gamba at his
own concerts, which he at first established gratis in his mife-
rable house, which was an old mean building, the ground-
floor of which was a repository for his small-coal; over this
was his concert-room, long, low, and narrow, to which
there was no other access than by a pair of stairs on the
outside, so perpendicular and narrow, as scarcely to be
mounted without crawling.

Hearne allows him to have been a very diligent collector
of old books of all kinds, which, in his courses through the
town crying his small-coal, he had a good opportunity of
doing at stalls, where he used to stop and select for pur-
chase whatever was ancient, particularly on his two favourite
subjects of chemistry and music. On the former, it has
naturally been suggested, that he had picked up books on
Rosicrucian mysteries, and not impossible, but that he may
have walled some of his small-coals in the great secrets of
alchymy in the transmutation of metals.

With respect to music, he collected all the elementary
books in English that were then extant: such as Morley's
introduction, Simpkin's division violift, Playford, Butler,
Bath, and Mace; nine books of instruction for the fag-
modly, flute, and mock trumpet. But besides his vail
collection of printed music, the catalogue of which fills eight
pages in 4to. of sir J. Hawkins's hill of music, he seems to
have been such an indefatigable copyist, that he is said
to have transcribed with his own hand, very neatly and ac-
curately, a collection of music which stood after his decease
for near 100.

Mr. Walpole, in his anecdotes, says that "Woolaston the
painter, who was a good performer on the violin and flute,
was at the concert, held at the house of that ex-
traordinary person, Thomas Britton the small coal man,
whole picture he twice drew, one of which was purchased
by sir Hans Sloane, and is now in the British museum:
there is a mezzotinto from it. T. Britton, who made much
noise in his time, considering his low station and trade, was
a collector of all sorts of curiosities, particularly drawings,
prints, books, manuscripts on uncommon subjects, as mystic
divinity, the philosopher's stone, judicial alchymy, and mag-
ic; and musical instruments, both in and out of vogue.
Various were the opinions concerning him: some thought
his musical assembly only a cover for fraudulent meetings;
others, for magical purposes. He was taken for an archi-
d_, a presbyterian, a Jesuit. But Woolaston the painter,
and the son of a gentleman, who had likewise been a member
of that club, averred it as their opinions, that Britton was a
plain, simple, honest man, who only meant to amuse him-
self. The subscription was but ten shillings a year; Britton
found the instruments, and they had coffee at a penny a dish.
Sir Hans Sloane bought many of his books and MSS. now
in the museum, when they were sold by auction at Tom's
coffee-house near Ludgate."

We have in early life conversed with members of this
concert, who spoke of him in the same manner. So late as
the middle of the last century, mezzotinto prints of him were
in all the print shops, particularly an excellent one by
Smith, under which, and almost all the prints of Britton,
were the following verses by Hughes, who frequently per-
formed on the violin at the concerts of this ingenious small-
coal man.

"Though mean thy rank, yet in thy humble cell
Did gentle peace and arts, unpurchased, dwell;
Well pleased Apollo threaten'd his train,
And music warbled in her sweetest strain.
Cynethus so, as fables tell, and Jove,
Came willing guests to poor Philémon's grove.
Let ufeless pomp behold, and blush to find,
So low a fiation, fuch a liberal mind?"

In most of the prints, he was represented with his back of
small-coal on his shoulder, and his measure of retail in his
hand.

In the Guardian, No. 144, Steele speaking of the variety
of original and odd characters, which our free government
produces, says: "We have a small-coal man, who begin-
ning with two plain notes, which made up his daily cry, has
made himself master of the whole compass of the gammut,
and has frequent concerts of music at his own house, for the
entertainment of himself and friends."

But the affterton of sir John Hawkins, that Britton was
the first who had a meeting that corresponded with the idea
of a concert, is not correct: in the time of Charles I.
and during the usurpation, at Oxford, meetings for the per-
formance of fancies in fix and seven parts, which preceded
sonatas and concerts, were very common. And in Charles
the Second's time, Banister, father and son, had concerts,
first at taverns and public houses, and afterwards at York
buildings.

It is, perhaps, not a matter worthy of dispute; but we
imagine, that it would be difficult to prove that Handel
ever played at the small-coal man's concert. Handel was
proud, and never had much respect for English composers.
He had been careless and patronized by princes and nobles
fo long, that he would as soon have gone into a coal-pit
to play at a concert, as to the hovel of our vender of small-
coal.

About the commencement of the last century, a passion
prevailed among several persons of distinction, of collect-
ing old books and MSS.: and it was their Saturday's amuse-
ment during winter, to ramble through various quarters
of the town in pursuit of these treasures. The Earl of Ox-
ford, Pembroke, Sunderland, and Winchelsea, and the
duke of Devonshire, were of this party, and Mr. Bagford
and other collectors affixed them in their researches. Brit-
ton appears to have been employed by them; and as he was
a very modest, decent, and unpreening man, he was a
flarer in their conversation, when they met after their morn-
ings's walk, at a bookeller's shop in Ave-Maria lane. Brit-
ton used to pitch his coal sack on a bulk at the door, and,
dressed in his blue frock, to step in and spend an hour with
the company. But it was not only by a few literary lords
that his acquaintance was cultivated; his humble roof
was frequented by amateurs of the fair and the gay; and
his fondness for music caused him to be known by many dile-
untants and professors, who formed themselves into a club at
his house, where capital pieces were played by some of the
first professional artists, and other practicioners; and here
Dubourg, when a child, played, standing upon a joint-stool,
the first solo that he ever executed in public.

We cannot terminate this article better than from Dr.
Aikin's
Alkin's account of Britton. (Gen. Diag.) The circumstances of his death were as extraordinary as those of his life, if the story is to be credited. A ventriloquist was introduced into his company by an acquaintance who was fond of mischiefous jests. This man, in a voice, seemingly coming from a distance, announced to poor Britton his approaching end, and bid him prepare for it, by repeating the Lord's prayer on his knees. Britton, whose mythical and magical books had probably made him credulous, obeyed the injunction, went home, took to his bed, and actually died in a few days. This was in September 1714. He was buried with a very respectful attendance in Churchwell church-yard.

BRUVIN, in Geography, a cape on the west coast of Nova Zembla. N. lat. 74° 40'. E. long. 53° 14'.

BRIVA flizes, in Ancient Geography, a place of Gaul, on the Ilara or Ofie, a little north of its confluence with the Sequana or Seine.

BRIVAS, a place of Gaul, belonging to the Arverni, upon the Claver or Aliver, a little north of Condate: famous as the burial-place of St. Julian, near which, the emperor Avitus was interred in 456. See Brioude.

BRIVATESPORTUS, or GOSSEIVRES, le Croise, a place of Gaul, at the mouth of the Loire, near its union with the river Herus or Vistua, according to Ptolemy.

BRIVEGA, or BRICACA, in Geography, a small town in Spain, in Callisse, seated on the Taja, having a caftle. It trades in wool and fluffs. In 1710, general Stanhope, commander of the English forces, was obliged to surrender himself and his men prisoners of war at this place.

BRIVES, a town of France, and principal place of a district, in the department of Corrèze; 4 leagues S.W. of Tulle. The place contains 5763, and the canton 13,683 inhabitants: the territory comprehends 105,758,7 degrees, and 11 communes. This is a considerable place, lively, and very populous. The surrounding country produces wine, and nut oil, and abounds in wood. The town has some manufactures, and is adorned by many neat churches. N. lat. 45° 10'. E. long. 1° 40'.

BRIVESAC, a town of France, in the department of the Corrèze; 6 leagues E. of Brires.

BRIVIO, GIOVANNI, in Biography, an Italian singing-master and composer of Milan, where he opened a singing-school in 1732. The celebrated Salomoni, Appiani, and Mancini were his scholars; and was Giusप्पा Perfani, who had for a long time a favourite singer in England, and who, though only a second-rate performer at the Opera, was many years the best female singer at our concerts, and in Handel's Oratorios.

Brivio, as composer, had considerable merit, and furnished the lyric theatres of Italy with several successful operas.

Brivio, in Geography, a town of Italy, in the Milanese, on the road from Bergamo to Como.

BRIX, a town of France, in the department of the Channel; 5 miles W. of Vallogues.

BRIXA, L. See LEBRIX.

BRIXELLUM, in Ancient Geography, a town of Gallia Cipadana: now BERSELLO, which is.

BRIBEN, in Geography, a district of the Tyrol, in Germany, is situated among the Rhetian Alps, and is very fruitful, especially in vine. The prelate has a revenue of about 30,000 crowns per annum, and is a prince of the empire and flate of the circle of Austria: though in ecclesiastical matters, he is subject to the archbishop of Salzburg. He has a vote and a seat in the diet of the empire, and furnishes his contingent of taxes and imposts. The religion of the diocefe is Roman catholic; but among the peasants there are some Lutherans: the capital is Brixen.

BRIXEN, the capital of the preceding bishopric, seated on the river Eyfach, at some distance south of the Brenner mountains. It is surrounded with hills and vineyards, and is a well-built populous town; the houses being adorned with piazzas, and painted on the outside. It has many public buildings, exclusive of the cathedral, which is handsome, and several spacious squares: the mineral waters in its vicinity cause it to be much frequented. In 1706, a council was held here by the emperor Henry IV, which deposed Pope Gregory VII. This town was taken by the French in March, 1706. N. lat. 46° 35'. E. long. 11° 57'.

BRIXENTADT, a town of Germany, in the circle of Fraunconia, and principality of Anspach, affording an asylum for involuntary homicides; 16 miles E. N. E. of Wurzburg.

BRIXIA, in Ancient Geography, a town of Regno Transpadana, belonging to the Cenomani, seated on the Mela; now Brescia, which is.

Brixia, a river of Scouria, which discharges itself into the Perigetic, and which rendered the coasts dangerous, according to Pliny, by the quantity of mud deposited by it.

BRIXTON, in Geography, lies on the west side of the Isle of Wight, and is an open bay to the north-west from the tenth point of this island. The ground is rocky, and in swelling seas or winds inshore, it does not afford a defensible retreat nor a safe anchorage.

BRIZA, Quaking grass, in Botany, (87, 2a, to nod) Linn. 84. Reich. 69. Schreib. 115. Gerhi. 6. Tab. 1. Hift. 32. La March. Tab. 45. Smith Flor. Brit. 34. Clapham, triumfia digynia. Nat. Ord. Gramin. Gen. Char. Cal. glume many-flowered, two-valved, spreading, blant, collecting the flowers into a false corolla, twor-riieked. Cor. two-valved; the lower valve the five and figure of the calyx, the upper one very small, flat, roundish, enclosing the other. Not two-leaved; folioles linear, crinklate. Stem; filaments three, capillary, oblong. PIlfl. gern, roundish, spreading. Stigma, plumose. Peric. none; the corolla unchained contains the seed, and when ripe, opens and drops it. Seed, one, adhering to the corolla, compressed. Eff. Char. Cal. bifoliate, many-flowered; little spikes two-valved. Cor. two-valved, ventricose, with corollate obtuse valves; seed adhering to the corolla, deprefted.

La March observes that Briza is too nearly allied to Poa, to make a good distinct genus. He has, however, kept them separate: but judging that what has been called a multivalve calyx is Uziola, its principal difference from Briza, is nothing more than two or three abortive flores, he has abolished the genus, and defcribed its species under Briza. In agreement with the greater number of authors, we have thought it better to preserve the original distribution. Species 1. B. minor. Lin. (Eng. Bot. 1216) effera. Knap. (Gram. Brit. 61.) “Spikes triangular, feather-flowered; calyx longer than the flores, spidrl very long, lanceolate." Dr. Smith. Root fibrous, fmall, annual. Calum erect, about beam inches high, round, roughish, with minute spines pointing downwards, leafy, often branched at the base. Leaves spreading, erect, lanceolate, acute, flat, of a plain green, fringed, rough at their margin. Sheath fringed, smooth. Stipule lanceolate, very long, embracing the stem, deciduous, adhering to the leaf above, very tender. Panicle spreading widely; branches growing two together, branchlets dichotomous, divariate, capillary, rough, green. Spikelets pendulous, trembling, defoliate, smooth, beautifully variegated with white and green, with about seven flowers. Calyx-glands nearly equal, concave, very obtuse, fringed, membranaceous at the margin, longer than the flores. Flores alternate, gradually smaller; inner glumes very small, emarginate. Dr. Smith defcries the culm as smooth, but in specimens sent us from the west of England, it has a slight roughness, just fensitive to the touch, and visible with a strong magnifier. We have, therefore, followed Mr. Knap in this part of the description.
The greater length of the calyx is most observable when the
papula has just burst from its sheath. At a more advanced
period the limbus nearly disappears. It is a rare plant
in England, peculiar to the southern counties, and chiefly
found in Cornwall. 2. B. minuta, Linn common growing
roots, corms, tubers. 3. B. tenellus, Linn. "Spikes ovate,
seven-flowered, calyx shorter than the flowers, ripule very
short, obtuse." Dr. Smith. 3. B. tenellus, Linn. "Spikes
perennial, fibrous, elongated, leaves entire, round, leathery,
soft, smooth. Leaves acute, flat, slender, a little rough.
4. B. longifolium. Linn. "Spikes ovate, many-flowered,
smooth, ripule very short, obtuse." Leaves acute, flat,
slender, a little rough. Leaves, very long, fimbriated.
5. B. tenuis, Linn. "Fruits in nearly equal, concave, obtuse, scarcely
pointed, sessile, at the margin. Fruits as in the minus. Dr.
Smith. Common in the dry, stony meadows of Europe, and
other parts of Europe. It has no peculiar excellence, and has never
been cultivated separately. 5. B. verum, Linn. "Spikes ovate,
many-flowered; calyx equal to the flowers." Very like the
papula, but the leaves are twice as broad. Root annual.
Leaves acute, decurrent, adhering to the leaf above. Punica
glumigerum, Linn. "Spikes ovate, green, many-flowered;
branchlets much divided, occasioned by calyx knots depress
them at their base. Fruits have a smaller, readily falling
off when dried. Nature of the Levant, Spain, &c. Introduced into
ovate, calyx shorter than the flowers, calyx glandular." Thunb.
Cape of Good Hope. 5. B. egyp'tiaca. (Poq.
Brizzi, Linn. Sup.) "Spikes ovate, ten-flowered,
podium chiefs. Cape of Good Hope. 6. B. maxima, Linn.
"Spikes cordate; flowers seventeen." Root annual. Leave broad.
Culm about a foot and half high. Spikes very few, very
large, thick, fimbriated, variegated with green and white.
Podium simple. Italy, Portugal, Cape of Good Hope, India. 7. B. egyp'tiaca.
Linn. "Podium oblong; spikes late abundant, many-flowered."
La March. Root annual. Culm from five to seven
inches high, decumbent near the bottom. La March
observes, that it is nearly allied to Poq. egyp'tiaca, and
Wildenow doubts whether it be more than a variety of it;
but Villars ascertains that it may always be distinguished by
the outer valve of the corolla, which is concave, pellucid,
with a nerve running along the middle, and two along the edge.
South of Europe. 8. B. monspeliaca. Allion. "Spike
nodding, simple; spikeslets alternate, peduncled, subfoliatory,
flakes fimbriated." Martyn's Miller.

BRIZACCA, in Ancient Geography, a town of Aphi, in
Armenia Major. Polomy.

BRIZANA, a river of Aphi, in Persia Propria. Its mouth
was dangerous, according to Arrian, on account of the
floods and rocks with which it abounded. Polomy calls this
river Cusanana.

BIZE, in Agriculture, a word that signifies such lands
as have remained long without tillage.

BIZZ-vents, or BIZZ-vents, a kind of shelters used by
gardeners, who have not walls on the north-side, to keep the
cold winds from damaging their melon beds.

BIZZ-vents are inclosed S or E or W or S E, and an
inch thick, made of straw, supported by stakes fixed into
the ground, and props across both inside and outside, fastened
together with willow twigs, or iron-wire.

BRIZEMBOURG, in Geography, a town of France,
in the department of the Lower Charente, and district of
St. Jean d'Angely; 2 4 leagues S. of St. Jean d'Angely.

BRIZEN, a town of Germany, in the circle of Upper
Saxony, and Middle Mark of Brandenburg; 4 leagues N.
of Wittenberg.

BRIZZO, or BRICCI, FRANCESCO, in Biography,
a painter of architecture and landscape, was born at Bologna
in 1574, and educated first in the school of Pafferot, and
afterwards under Ludovico Caracci. Having applied with
great diligence to the study of the principles of perspective
and architecture, he acquired a style in his compositions
of such distinguished excellence, that his pictures were much
admired, not only for the truth of the perspective, and
the beauty of the colouring, but also for the grandeur of his
ideas, the majestic style of the architecture, the elegance of
the ornaments, and the noble table of landscape, which he
introduced to set off his buildings. He was also an engraver,
and is said to have allied Agostino Caracci, in the plates
which he engraved; to have also some specimens of this master.
Of his prints we may mention his " Habub Family," " from
Correggio; "St. Roch," from Parmigian, the " Flight
into Egypt," from Ludovico Caracci; and " Christ and
the Woman of Samaria," from Agostino Caracci. He died in

BROACH, BROCHA, in Middle Age Writers, denotes an
awl or bodkin. Among us broach is chiefly used for a steel
instrument serving to open holes in metals. It is sometimes
also applied to a stick on which thread or yarn is wound;
and, in the North, to a sort of wooden needles used in
knitting certain coarse things.

See an account of the broach used in weaving tapestry,
under TAPESTRY.

In some part of England, a spit is called a broach: and
hence also to broach a barrel, is to tap it. The ancient lords
received from their tenants a fee or tribute, called feryfogium,
for the liberty of broaching a cag of ale.

The term broach or breech, is also used in Scotland, to
denote a certain utensil used by the Highlanders for
fattening their veal, and resembling the "fibula" of the Romans.
This broach is commonly of silver, of a round figure,
and furnished with a tongue, crossing its diameter, and
leaving to fasten the folds of the garment: some have two tongues,
one on each side of a crescent bar in the middle. Ancient
broaches of elegant workmanship, and richly ornamented,
are preserved in several families; some of which are incribed
with names, to which particular virtues were ascribed,
and others furnished with receptacles for relics, supposed to
defend from harm: so that they seem to have been used not
only in dres, but for the purpose of amulets.

BROACH, in Geography. See BROACH.

Broach to, is when a ship falling large suddenly flies
up to the wind, in consequence of the difficulty of steering,
or of bad weather, &c. So that the sails are all taken aback.

BROAD-Arrow, in Heraldry, differs from the pheon by
having the inside of its bars plain.

BROAD Bank, in Geography, a bank on the coast of Fland-
er, the south end of which is about 4 or 5 leagues N. by
E. from Caunis cliff. On the west side between this and
Rattle-bank, is a channel of 18 or 19 fathoms.

BROAD Bay, a bay of America, in the district of Maine,
lying on the line of Lincoln and Hancock counties,
bounded by Pemaquid point on the west, and Pemaquid
point on the east.

BROAD Bay, on the coast of Wales. See St. Bride's Bay.

BROAD-eag Inland, in Agriculture, that sort of arable
cultivation in which the seed is put into the soil by the hand,
without the aid of machinery. In this way the seeds are
scattered over the surface of the ground, without being con
fined in regular rows, as is the case in the drill method, which
is mostly opposed to it. The putting of the seed into the
earth in this way seems better suited to the flory and more
fluffiness...
flatt kinds of land, than that by means of machines, as they must constantly be liable to be put out of order, and of course to deposit the feed in an irregular manner. See Husbandry.

Broad-cast Sowing, that mode of putting grain, turnips, pulse, clover, grasses, &c. into the earth, by throwing them over the surface by the hand. See Sowing.

Broad Fourteen, in Geography, the name of a fand which lies 5 or 6 leagues N. from the Texel, extending by a small tail N. from the Texel, and N. W. by N. from Flyer Vlialand island towards the south. Upon this sand are generally 14 fathoms of water, and between it and the land from 15 to 19, and more northerly 20 fathoms.

Broad Haven, a considerable harbour of the county of Mayo, Ireland, lying between Uriss and Binwy heads. It is very extensive, has good ground, and water of sufficient depth for any ship; but is so much exposed to northerly winds, that there is not room for more than two large ships in well sheltered anchorage. Small vessels, however, may go further up, and lie very safe on that sand, with three or four feet water under them at low water. The western shore of this bay is formed by the peninsula of the Mullet, sometimes erroneously represented as an island. There are at present only a few fishing villages on the coast of this harbour. About two miles N. by E. of Binwy head are three or four very remarkable rocks, called the Stags of Broadhaven.

Lon. between 5° 40', and 5° 45' W. Lat. 54° 19' N.

Broad piece, in Coinage, a denomination given to certain gold pieces broader than a guinea; particularly Caroluses and Jacobes.

Broad River, in Geography, an arm of the sea, extending along the west and north-west sides of Beaufort or Port Royal island, on the coast of South Carolina, and receives Coosa river from the north-west, which may be also called an arm of the sea. These two arms embrace all the islands between Coombahee river and Dawfufkee found, with which Broad river also communicates. Channels between Broad river and Coosa form the islands. The entrance through Broad river to Beaufort harbour, which is one of the best in the state, lies between Hilton's head and St. Phillips's point.

Broad River, or Cherokee-haw, a water of Savannah river, from the Georgia side, which empties into the Savannah at Charleston.

Broad River, in South Carolina, rises by three branches from the N. W. viz. the Enmoree, Tiger, and Packolee, which unite about 40 miles above the mouth of the Saluda river; and this, with Broad river, forms Congaree river. Broad river may be rendered navigable 30 miles in North Carolina.

Broad Sands, lies on the west side of the buoys of the channel in the Zuyder Sea, within the Texel.

Broad-side, in the Sea-Language, a discharge of all the guns on one side of a ship at the same time.

A broad-side is a kind of volley of cannon, and ought never to be given at a distance from the enemy above musket-shot at point-blank.

Broad Sound, in Geography, is the opening from the S. W. into the roads and harbours of the Scilly islands. In this sound there is good anchorage, when St. Mary's island on the E. S. E. and Samfon island to the W. N. W. and the S. point of Tresco island on the N. are nearly at the same distance of about a mile. — Also, a found in the N. W. point of France, called by the French "Paiffage de Liroife," lying between Point de Sant and the island of Ulflant, and extending to sea about 5 leagues from St. Matthew's point. — Also, a found on the coast of Norway, between which and the north part of Swalland are Flaxack islands. — Also, the found which is the entrance into Bollon harbour from the N. E. in a direct line for Nick's Mate island. — Also, a found in the South Pacific ocean, on the west coast of New Holland, within the bay of Inlets, being cape Palmerston for its N.W. entrance. It is separated from Thirly by an island lying in the direction of S. S. E. and S. called Long island, S. lat. 21° 30' to 21° 50'. E. long. 149° 20'.

Broads, in Building, a species of free-raise, thus denominated because it is raised broad and thin out of the quarters; or not exceeding two or three inches in thickness; chiefly used for paving.

Broads, or wheel-waggon. See Waggon.

Broads-worm, in Zoology, synonymous with lumbricus lutes of old writers. See Tenea, and Tape-worm.

Broadalbin, in Geography, a township of America, in Montgomery county, New York; containing, by the last census of 1796, 277 inhabitants, who are electors.

BROADLEY, a town of Poland, in the principality of Belfry; 45 miles E. of Belfry.

BROACH, a town of Germany, in the circle of the Lower Rhine, and electorate of Treves; 15 miles S.E. of Treves.

BROCADE, in Commerce, a sort of stuff, or cloth of gold, silver, or silk, raised and enriched with flowers, foliage, or other figures, according to the fancy of the manufacturer.

Formerly, the term was restrained to cloths woven either wholly of gold, both of woof and warp, or of silver, or of both together; but by degrees it came likewife to pass for such as had silk intermixed, to fill up and terminate the flowers of gold and silver. At present, any stuff of silk, satin, or even simple taffety, when wrought and enriched with the flowers, &c. obtains the denomination of brocade.

In the manufacture of brocades, the flattened gilt wire is spun in threads of yellow silk, approaching as nearly as possible to the colour of gold itself. The wire, winding off from a bobbin, twirls about the thread as it spins round, and by means of curious machinery, a number of threads are thus twisted at once by the turning of one wheel. The principal art consists in regulating the motion, that the several convolution of the flattened wire in each thread may just touch one another, and seem, as it were, one continued covering. At Milan, it is said, there is made a sort of flattened wire, gilt on one side, which is wound upon the thread, so that only the gilt side appears; the preparation of this wire is kept a secret, and has been attempted in other places with little success. There is also a gilt copper wire, made in the same manner as the gilt silver. Savary observes, that this kind of wire, called false gold, is prepared chiefly at Nuremberg; and that the ordinances of France require it to be spun, for its distinction from the gilt silver, on flaxen or hempen threads. The Chineses, instead of flattened gilt wire, use slips of gilt paper, which they both interweave in their fluffs, and twit upon silk threads; but whatever be the pretended beauty of the fluffs of this kind of manufacture, it is obvious that they must want durability; accordingly, the Chineses themselves, as we learn from Du Halde, findible of this imperfection, fearlessly use them any otherwise than in tapestries, and such other ornaments as are not intended to be much worn or exposed to moisture.

The Venetians have carried on a large trade, to the Levant, in a kind of brocade called damosquett, which, though
though it has only about half the quantity of gold or silver as that made among us, looks far more beautiful. The flattened wire is neither wound close together on the flilk threads, nor the threads bruk close in the weaving; yet, by passing the flulk between rolls, the disposition and management of which is kept a secret, the flilk or fluker is made to appear an entire brilliant plate of gold or silver. The French ministry judged this manufacture important enough to deserve their attention; and accordingly, for contriving the machinery, they engaged the ingenious M. Vaucanson, known throughout Europe for his curious pieces of mechanism, who, in the memoirs of the academy for the year 1757, gives an account of his success, and of the establishment of such a manufacture at Lyons.

The lower roll is made of wood, thirty-two inches in length and fourteen in diameter; the upper one of copper, thirty-six inches long and eight in diameter: this last is hollow, and open at one end, for introducing iron heaters. For making the rolls cylindrical, he has a particular kind of lathe, wherein the turning tool, which the most dexterous hand could not guide in a straight line through such a length as thirty-six inches, is made to slide, by means of a screw, on two large fixed rules, perfectly straight, and capable of being moved at pleasure, nearer, and always exactly parallel, to the axis of the roll.

He first disposed the rolls nearly as in the common flukting-mill. In this disposition, ten men were scarcely sufficient for turning them with force enough to duly extend the fluld; and the collars, in which the axes of the rolls turned at each end, wore or galled so fast, that the pressure continually diminished, insinuating, that a piece of flulk of ten ells had the flulding sensibly less extended on the left part than on the right. He endeavoured to obviate this inconvenience by screwing the rolls closer and closer in proportion as the flulk passed through, or as the wearing of the collars occasioned more play between them; but this method produced an imperfection in the flulk, every turn of the screw making a sensible bar across it. To leffen the attrition, each end of the axes, instead of a collar, was made to turn between three iron cylinders called friction-wheels: but even this did not answer sufficiently, for now another source of unequal pressure was discovered. The wooden roll, being compressible, had its diameter sensibly diminished; it likewise lost its roundness, so that the pressure varied in different points of its revolution. On trying different kinds both of European and Indian woods, all the hard ones split, the soft ones warped without splitting, and, of more than twenty rolls, there was not one which continued round for twenty-four hours even without being worked in the machine.

These failures put him upon contriving another method of pressing the rolls together, so that the force should always accommodate itself to whatever inequalities might happen. The axis of the copper roll being made to turn between friction wheels as before, that of the wooden one is pressed upwards by a lever at each end furnished with a half collar for receiving the end of the axis. Each lever has the end of its short arm supported on the frame of the machine, and the long arm is drawn upwards by an iron rod communicating with the end of the short arm of another lever placed horizontally: to the long arm of this last lever is hanging a weight, and the levers are so proportioned, that a weight of 30 pounds presses the rolls together with a force equivalent to 17330 pounds, which was found to be the proper force for the sufficient extension of the flulding. By this contrivance four men can turn the rolls with more ease than ten can turn those which are kept together by screws; and the same weight acting uniformly in every part, the pressure continues always equal, though the wooden roll should even become oval, and though the flulk be of unequal thickness.

A piece of cloth, of about two ells, is passed to the beginning and end of the flulk, to keep it out to its width when it enters and parts from the rolls, which could not be done by the hands for fear of burning or bruising them: as it would take too much time to few these cloths to every small piece of an ell or two, a number of these is fewed together. The flulk is rolled upon a cylinder, which is placed behind the machine, and its axis propped down by springs to keep the flulk tight as it comes off. Four iron bars, made red hot, are introduced into the copper roll, which in half an hour acquires the proper degree of heat, or nearly such a one as is usual for the ironing of linen: the wooden roll is then laid in its place, and the machine set to work. If more than thirty ells are to be passed at once, the wooden roll must be changed for another, for it will not bear a longer continuance of the heat without danger of splitting, and therefore the manufacturer should be provided with several of these rolls, that when one is removed, another may be ready to supply its room: as soon as taken off from the machine, it should be wrapt in cloth and laid in a moist place.

The principal inconvenience attending the use of this machine is, that the heat necessary for extending the flulding, though it improves the brightness of white and yellow silks, is injurious to some colours, as crimson and green. A double pressure will not supply the place of heat, and the only method of preventing this injury, or rendering it as little as possible, appeared to be to pass the flulk through with great celerity.

Rich brocades may be cleaned, and the luster of them recovered, by washing them with a soft brush dipped in warm spirit of wine.

Neither alkaline liquors nor soap should be used for this purpose; because the former, while they clean the gold, corrode the silk, and change or discharge its colour, and the latter also alters the shade, and even the species of certain colours. But spirit of wine may be used without any danger of its injuring either the colour or the quality of the subject, and, in many cases, it proves as effectual for restoring the luster of the gold, as the corrosive detergents.

Spirit of wine seems to be the only material adapted to this intention; however, this is not proper in all cases: for if the base metal, with which the gold of the covering was alloyed, has been corroded by the air, the particles of the gold may thus be diffused; and the silver underneath, tarnished to a yellow hue, may continue a tolerable colour to the white; but in such cases the removal of the tarnish would be prejudicial to the colour. See Lewis's Com. Philos. Techn. p. 62. 226.

Brocade-Silk, in Costume, a trivial name given sometimes to Conus Geographicus, Linn. In a more general sense, the epithet brocade, synonymous with the French brocard, is applied to various other objects of natural history, whose disposition of colours, and markings, bear a fancied resemblance to that fort of flulk, flilk, cloth, and which is commonly understood by the word brocade. Brocard among the French, and brocade with us, is not, therefore, the language of naturalists, but of dealers, and unscientific collectors.

Brocardics, Brocadica, denote maxims or principles in Laws such as those published by Azo, under the title of Brocadica Juris.

Voilus derives the word from the Greek episcopen, q. d. first elements. Others, with more probability, from Bur- chard, or Brochard, bishop of Worms, who made a collection of canons, called from hence Brocardica; and as this work
work abounded much in sentences and proverbs, the appellation brocaded became hence extended to every thing.

BROCADEL, called by the French brocadé, an ordinary kind of stuff made of cotton, or coarse silk, in imitation of brocade; chiefly used for tapestry and other furniture. That manufactured at Venice is the most esteemed.

BROCATELLO, a name given by lapidaries to a calcareous stone or marble, composed of fragments of four colours, white, grey, yellow, and red.

BROCO, in Geography, a town of Naples, in the county of Lavora; 5 miles W. of Capua.

BROCCOLI, in Botany and Gardening. See Brassicaceae.

BROCHOS, in Surgery, is a term of doubtful signification. It has been considered by some as a Greek name for the Epercius, or roots; and by others, as denoting bandages in general. Calcines informs us, that this word relates to certain chirurgical instruments; and he refers to the authority of Galen and Oribasius. It has also been considered as expressive of a privation of voice, or aphonia. Persons having a very large and prominent upper lip, have been denominated brochos; although Dr. Turton, in his Medical Glossary, says that brochos signifies one who has "the chin and neither by flicking out." 

BROCHRUS, in Ancient Geography, a town of Phœnicia, seated near a marsh, between Libanus and Antilibanus. Polybius.

BROCK, among Sportsmen, sometimes denotes a badger, otherwise called a grey brock.

Brook, and broccoli, are also used to denote a hart of the third year.

BROCKDROP, in Geography, a town of Germany, in the circle of Lower Saxony, and duchy of Holstein; 6 miles W. of Krempe.

BROCKEL, or Brakel, a town of Germany, in the circle of Westphalia, and county of Verden; 5 miles E. of Rothenburg.

BROCKEN. See Harz.

BROCKLESBY, Richard, in Biography, who attained to considerable eminence, and acquired a splendid fortune by the practice of medicine in London, was of a respectable family of Cork, in Ireland, but was born at Minhead in Somersetshire, where his mother was on a visit to one of her relations at the time of his birth. This happened on the 11th of August, 1722. His parents were Quakers; but it does not appear that they were solicitous to initiate him in the principles of that sect. At an early age he was sent to a famed academy at Ballytore, in the north of Ireland. There he formed an intimacy with Edmund Burke, which was improved into the most cordial friendship when they met together afterwards in London. Having completed his school education, he went to Edinburgh, and after attending the lectures of the professors in the different branches of medicine there, he proceeded to Leyden, and took his degree of doctor, under the celebrated Gaußius, in June, 1745, giving, for his inaugural thesis, a dissertation "De Saliva fusa et morbosa." The following year he came to London, and settled in Broad-street; and as the income allowed him by his father was not large, and he found that sum not much increased, for the first few years, by the profits of his profession, he determined to regulate his expenses in such a manner, as to secure him from the misery of dependence. "Never sufferer himself, as he was used to have a want that was not accommodable to his fortune." The same year he published an Essay concerning the Mortality of the Horned Cattle, which contributed to extend his name and character. In 1751, he was admitted a licentiate in the Royal College of Physicians, in London. In 1754 he received an honorary degree of doctor in medicine, from the university of Dublin, and the following year he was admitted by the university of Cambridge, ad eundem. He then became a candidate, and in June, 1756, was elected a fellow of the College of Physicians. As his practice was not much increased, and by the prudence of his conduct, and the frugality of his manners, he had concluded to himself the friendship of his professional brethren, he was, by their recommendation, appointed physician to the army by Lord Harrington. In this capacity he went to Germany, and continued there, until a few months before the conclusion of the war, in 1757. The following year he published the result of his observations and practice, under the title of "Economical and Medical Observations, from 1738 to 1752, tending to the Improvement of Medical Hospitals." 8vo. He now returned to London, and settled in Norfolk-street, in the Strand. His fortune was by this time increased by an estate of £1,000, per annum, which devolved to him on the death of his father; and the duke of Richmond, and five other noble personages, agreed to give him penions of 100l. per annum each, as a recommendation for attending their families. This, with his half pay from the army, made up a handsome income; and as he possessed the modestly virtue, as dear Swift calls it, discretion, he was enabled to keep a carriage, and to live with some degree of splendour. Soon after he was made a fellow of the Royal Society; and not being incumbered with a family, he dedicated what time he could spare from attending his patients, &c. to reading, or to associating with persons eminent for literature and science. On his suggestion, a professorship in chemistry was added to the establishment of the college at Woolwich; and on his recommendation the late Dr. Adair Crawford, author of an ingenuous philosophical treatise on heat, was appointed the first professor. Though it has been intimated, that the doctor's habits were frugal and economical, yet there are abundant proofs he was not deficient in liberality. On being informed that Dr. Johnson, with whom he cultivated a first intimacy, wished, in the latter part of his life, to visit the continent for the recovery of his health, but was restrained from going, by the narrowness of his circumstances, he, in a handomely and delicate manner, made him an offer of an annuity of 1,000l. per annum for the remainder of his life; and on Dr. Johnson's declining to accept the offer, he prevailed to reside in his house, as more airy and healthy than that in which he then lived. To his friend Edmund Burke he sent 1,000l., which he told him he had intended leaving him at his death, but thought it might then come to him, at a time when it would be of little use. The present was accepted, in a manner which showed that the doctor was strong in his conjectures. In the year 1794, finding the infirmities of age more than fell upon him, he gave up his half pay in the army, and declined, excepting among his particular friends, visiting patients. A little before this time, his patron and friend, the duke of Richmond, had appointed him physician general to the royal regiment of artillery, and corps of engineers. This he retained, as giving him an occasion of going to Woolwich, and visiting the laboratory there, to which he was attached. In the beginning of December, 1797, he went to Beaconsfield, to the house of Mrs. Burke, the widow of his deceased friend, where he continued a few days, and returned on the 11th of the month, to dine with his two nephews, Mr. Bosin and Dr. Young, the charge of whose education he had taken principally upon himself. Though much fatigued with his journey, he appeared pleased with the interview, Z so and
and supported this part of the conversation with carefulness. At noon he retired to rest, but found the labour of going up stairs almost too much for him; and observed, "What an idle piece of ceremony this buttoning and unbuttoning is to me now!" After having some minutes in a chair to recumb himself, he went to bed, and in a few minutes quietly expired. His fortune, which is said to have exceeded 350,000, was left between his two nephews, a few legacies to friends and distant relations excepted.

As Dr. B. was of a quiet and peaceable disposition, he was not likely to enter into any serious broil; he was, however, at one time, obliged to accept a challenge. The occasion was this: the late doctor, afterwards Sir John Elliot, in the course of his attendance on a patient with Dr. B., had made use of means to obtain the favour of the family of the patient, which were not compatible with the character of a gentleman. Of this Dr. B. talked openly, and the expectations he had on the occasion were reported to Dr. Elliot, with an intimation, that if he did not insist on an apology from his antagonist, no one would, hereafter, meet or associate with him. A duel was the result, which, however, terminated without the effusion of blood, the seconds having taken care to place the combatants at such a distance, that their balls, if they should hit, would do no mischief.

Besides the works mentioned before, Dr. B. was author of "Oratio Harveniana," published 1765, 4to; "An Account of a poisonous Root lately found mixed with Gentian," Phil. Trans. No. 485; "Experiments on cutting the Tendons, in various Animals," ibid. vol. 43; "Cafe of a Lady labouring under Diabetes," Med. Obs. vol. 3; "Experiments relative to the Analysis of Seltzer Water," ibid. vol. 4; "Cafe of an Enchanted Man," ibid.; and "A Dissertations on the Music of the Ancients," supposed to be written in the early part of his life.

BROD, a fortified town of Slavonia, seated on the Save, and famous for a victory gained over the French in 1658. N. lat. 45° 20'. E. long. 18° 36'.

Brod, Bonifex, a town of Bohemia, in the circle of Kravizzi; reduced to ashes in 1637, and since rebuilt; 7 miles N.W. of Kravizzi.

Brod, Tusek, a town of Bohemia, in the circle of Czałza, on the Sazava, taken by the allies in 1743; 20 miles S.S.E. of Czałza.

Brod, Ungarjb, a town of Moravia, in the circle of Hraditz; 8 miles S.E. of Hraditz.

BRODEAU, John, (Lat. Brodeus), in Biography, a learned critic, was born at Tours about the beginning of the 15th century, and having studied law at Bourges under Alecrins, devoted himself to the belles lettres. He travelled into Italy, and formed connections with Sadelet, Dumesct, Mauvetius, and other literary characters. After his return to France, he distinguished himself by several works of criticism, the principal of which is a collection of observations, corrections, explanations, &c. of ancient authors, entitled "Miscellanea." The first six books of this work were published in the second volume of Gruter's "Lampas, feu Fax Artium," in 1604; and the four latter books in the fourth volume of the same collection. In his notes on Lucanides, he has been charged with plagirism. He was also versed in mathematics, and the oriental languages, as well as classical literature. He died at Tours, where he was canon of St. Martin, in 1563. Gen. Dict.

BRODENFELD, in Geography, a town of Germany, in the circle of Upper Saxony, and territory of Vogland; 3 miles E. of Oelfnitz.

BRODERA, a fortified town of Hindoostan, in the country of Guzerat, situated on the small river Dader, in the north-east part of the tract lying between the rivers Taptie and Mhiee, through which the great road leads from Surat to Ongreen. This is a modern town in comparison with several others, having been built by the son of the last king of Guzerat, near the site of an ancient town, formerly called Rapiore, but now Old Brodera, which is entirely gone to decay. It stands in a very fertile, though sandy, country, has good walls and towers, and is full of architects, who manufacture the finest fluffs of Guzerat, bafts, tibanches, cannaquis, chiloes, &c.; and the cottons of Brodera are finer than those of Bapooch, but narrow and shorter. Indigo is also an article of trade in this place, and the vicinity supplies gun-lace. The Dutch factory established at Brodera in 1626, was abandoned before the year 1670. N. lat. 22° 15'. E. long. 73° 11'.

BRODERIES, Fr. a term in Music for embroidering or gracing a melody. It is equivalent likewise with doubles, variations, flourishes, or flourishes for adorning an air. All these terms are used for the notes of music which the performer adds to his part in the execution, to vary a melody often repeated, to embellish passages too plain and simple, or to shine by the activity of throat or finger. Nothing manifests the good or bad taste of a musician, says Ruffeau, more than the choice and application of these ornaments. French vocal performers were very sparing of their broderies or graces in the middle of the last century; for if we except the celebrated Jellote and mademoiselle Fel, no French singer durst venture to make a single change in his part on the stage. French melody had been for some years growing more flow, and lamentable, that it was capable of no improvement by graces. The Italians are unable to execute a melody quite plain; they give full scope to their memory or fancy, and try who can make the greatest number of changes: an emulation often absurd, and carried to an offensive excess. However, the accents of their melody are so strongly marked, that there is little fear of the air being so disguised, as not to be recognizable through all the performers' redundances.

With regard to instruments, a solo player may do what he pleases; but a performer in a full piece, who dares embroider his part, was never suffered in a good orchestra.

BRODETZ, in Geography, a town of Bohemia, in the circle of Boldlaw; 5 miles S. of Jung Buntzlaw.

BRODIATORES, in the Middle Age, a kind of libri, or copies, who did not write the words and letters plain, but variously flourished and decorated, after the manner of embroidery. Du-Cange Gloss. Lat. tom. 1.

BRODNITZ, in Geography, a town of Prussia, in the bishroip of Culm; 30 miles E. of Culm.

BRODOW, a town of Germany, in the circle of Lower Saxony, and duchy of Holstein; 43 miles N.E. of New-flatt.

BRODY, a town of Poland, in the pateniate of Lemberg; 30 miles S. of Lucko.

BRODZEC, a town of Lithuania, in the pateniate of Minis; 48 miles E. of Minis.

BROECK, Crespin Vandcn, in Biography, a painter and engraver, was native of Antwerp, and flourished about the year 1560. As a painter, he had some reputation in the historical line; but the prints engraved from his designs, which are numerous, evince him to have been a man of genius and great fertility of invention. Among the engravings that are attributed to him, is the "Circumcision of Chrifi," in chiaro-scuro; the outline of which is etched in a bold free manner on copper; and the block of wood, which produces the lighter tints,
tints, is so contrived as to imitate the hatchings of white chalk upon the lights.

The daughter of this artist, viz. "Barbara Vanden Broeck," learned to draw of her father, and was probably instructed in the art of engraving in the school of the Colverts. Her progres, however, was such as to reflect no small credit on her talents. Mr. Strutt notices the following plates of her execution; the "Lait Judgment," done altogether with the graver, and in the style of Martin Rota; a "Holy Family," with St. John and several angels; and another "Holy Family," with St. John kneeling, and attendant angels. Published by Hendius, A.D. 1621.

BROECKHUYSE, JOHN, Lat. Brouckhuyssen, an elegant scholar and Latin poet, was born at Amsterdam in 1649. Difliking the profession of an apothecary, to which he was apprenticed, he left his master, and entered on board an India ship; and by degrees became master of an armed vessel. In this situation he felt an inclination for letters and poetry; and, by the advice of Grauits, applied to the study of the Latin language, of which in a few months he made himself complete master. He afterwards abandoned his sea-faring employment, and devoted himself with ardour to classical studies. While he was on board his ship, he wrote several pieces, one of which was entitled "Cedalon, or Impatience to revisit his Country," and a collection of his poems was published at Utrecht in 1684, by which he acquired great reputation. As a critic, under which character he excelled, he published valuable editions of Sannazarus, Propertius, Tibullus, and Anonius Palarius. He also translated into Latin father Rapin's "Parallel of Homer and Virgil." He died in 1707, and a monument was erected to his memory at Amsterdam, where he was interred. A splendid edition of his poems in 4to. was published at Amsterdam, in 1711. Moreri. Gen. Biol.

BROECKHUYSEN, BENJAMIN VAN, a Dutch physician of considerable learning and ingenuity, of the 17th century. After taking his degree of doctor in medicine at Leyden, he was made physician to the armies of the republic, and then physician to the fort and town of Bois le Duc. He was also known and esteemed by king Charles II. of this country, when resident in Holland.

His works are, "Economia Corporis animalis, seu Cognitiofationes succincte de Meente, Corpore, utriusque Conjunctione," Noviomagi, 1672. "Economia animali ad Circumnicationem Sanguinis breviter delineata," Gouda, 1687, 8vo. He was a follower of the stylem of Des Cartes, and maintained that the blood was heated in the heart by fire actually resident there; and to this he attributed the impulse it received, and which maintained and supported its circulation. "Rationes philosophico-medicae," Haag, 1687, 4to. written in a florid and poetical style, explaining the animal economy on Cartesian principles. Haller. Bib. Anat. Eloy. Dict. Hilt.

BROEK, ELIAS VANDEN, a painter, was born and educated at Antwerp in 1657, and became the disciple of Erasul Stuven, and studied De Heem, says Houbraken, or of Mignon, according to Defamps. He painted, in a loose, easy, and natural manner, all sorts of fruits, flowers, frogs, and reptiles. He designed and coloured every object after nature. Brock died in 1711. Pilkington.

BROEK, in Geography, a town or rather a large village of North Holland, distinguished by the elegant neatness and beauty of the houses and streets, and also of the inhabitants. The houses, which are built of wood and covered with tiles, are painted and ornamented on the outside with a variety of vivid colours, according to the fancy of the owner; and the windows are generally fashioned and decorated with curtains.

The inside of the houses is also equally neat and embellished. In the fronts of most of them are agreeable gardens, diversified with gravel walks, shell-work, images, and little hedges, or painted rails. The streets are paved with bricks, and waded by rivulets that pass by the sides of the houses; and in order to their being kept clean, they are too narrow to admit of carriages, nor are cattle suffered to pass through them. The fame attention to neatness and ornament is manifest in the environs of Brock. The town is chiefly inhabited by persons who have retired from business, or who are connected with some commercial houses at Amsterdam. The females are beautiful, but singularly reserved, particularly among strangers. The principal articles of trade are cattle and corn. Brock is distant one league W. from Monikedam.

BROERS BANK, lies on the coast of Holland, across a village of the same name, and the cloyster of Ten Duyns, running W.N.W. about a league into the sea.

BROEUCQUES, JOHN FRANCIS DU, was born at Mons, in 1690. At a proper age he was sent to Louvain, and in 1712 was admitted doctor in medicine; having finished his studies there, he returned to Mons, where he was much esteemed for his professional abilities, and continued practising to the time of his death, which happened suddenly, July 11th, 1749. He published in 1725, in 12mo. "Reflections sur la Methode de traicter les Maladies par le Quinquina." In this he combats, and successfully, some of the prejudices still remaining against the use of that medicine. "Preuves de la Necessite de regarder les Urines, et de l'utilage que les Medecins on doit faire pour la Guerison des Maladies," 1729.

BROEUCQUES, ANTHONY FRANCIS, one of the sons of the former, took his degree in medicine at Louvain in 1747, and on the death of his father succeeded to his practice, in which he continued until 1767, the time of his death. Two small useful works, the result of much practice, were published by him: "Diffours sur les Erreurs vulgaires, qui se commettent dans le Traitement des Enfans," Mons, 1754, 12mo. "Reformation des Erreurs vulgaires sur le Regime que la Medicine preferit aux Malades et aux Convalescents," Mons, 1757, 12mo. Eloy. Dict. Hilt.

BROGLING, a method of fishing for eels, otherwise called SniGGLING.

BROGLIO, or Broy, in Geography, a town of Piedmont, in the county of Nice, 15 miles N.E. of Nice. N. lat. 44° 12', E. long. 6° 42'.

BROGNE, a town and abbey of the county of Namur; 10 miles W.S.W. of Namur.

BROILING, or Baking, in Geography, a town of European Turkey, in Livadia; 22 miles N. of Livadia.

BROKEN, among Painters, a colour is said to be broken, when it is taken down or degraded by the mixture of another.

BROKEN, or Clay-Crash, in Geography, an Indian town in the Creek country, in West Florida, on the west side of Chataucha river; 12 miles below the Cuffitah and Coweta towns, where the river is fordable.

BROKEN BACKED, in Sea-Language, denotes the state of a ship which is so impaired and loomed in her frame, as to droop at each end; a disorder to which the French ships are most exposed, on account of their length, &c.

BROKEN BAY, in Geography, a capacious inlet, being the estuary of the Hawkesbury and other rivers, on the eastern coast of New Holland, about 8 miles to the northward of Port Jackson. S. lat. 33° 26', E. long. 151° 27'.

BROKEN ISLANDS, a name given to an assemblage of rocky eminences,
eminence, for the most part barren, situate on the coast of Arman, in the Left Innes, and affording shelter only to pirates and thieves. N. lat. 16° 30'. E. long, 94° 28'.

Brown's Notes. Among Horse-jarstia, broken knees are a mark of a humbler.

Brown's Notes, in Aristarchus. See Number and Fracture.

Brown's Fen, in District, the same with ray of Refraction, &c.

Brown's Horse, in Veterinary Science, a disease frequently seen among horses. The following are the indications which exist in its presence. The breathing of the horse increases from its natural rate, and from an easy, gentle, and regular inspiration is changed to a painful, laboured, heaving, and jerking act of the breaths, which rise by several sudden forcible as a respiration to a pretticular height, then suddenly relax and fall backward beyond the natural extent of these parts; the cheeks become hollowed, and held rigid and opened to an unnatural extent, and the face becomes every where contorted and contracted; such are the appearances in very acute cases; in more recent cases these appearances are less evident, and it is a disease that can exist in every degree of mildness or violence.

When the disease has been of long standing, and little pain or care is taken with the animal, it may be more particularly observed in ease horses, and horses employed in farmer's work in the country, the abdomen becomes large and pendulous; but in more recent cases, and in horses otherwise situated, we have observed that, in the early stage at least, the abdomen is rather contracted and is painfully held up in this disorder.

Great thirst attends this disease, perhaps arising from the increased action or fever which it occasions, and this has been too often mistaken for the cause of it, and has led to the most cruel privations.

There is no disorder, perhaps, of the horse, which has so much engaged the attention of anatomists and of speculative minds as men, as this, to discover its cause. It has, however, we believe, never yet been satisfactorily explained: at least, there is no author that we are acquainted with that has formed any connected or probable account of it, unless perhaps very lately, and which was derived from the source we are about to mention.

Haller seems to have suppos'd it proceeded from a relaxed or ruptured diaphragm. Lower imagined that a relaxation or injury of the phrenic nerves might occasion it; some have affected it, after examination, that the lungs are not at all affected in this complaint, and that its seat was about the lungs and air-passage; and some of the writers on this subject have believed, that the lungs were grown too big for the chest, and that this was the source of the mischief, and there have been many other conjectures equally absurd. Some thought they elucidated the nature of this disease by comparing it to a consumption, and others to an althmia. We trust something more natural and satisfactory will be found in the following statement of our observations on this singular disease.

In the year 1725, being engaged in the dissection of a grey mare that was sent to the veterinary college to be destroyed on account of this complaint; on opening the chest, the lungs appeared free from inflammation, being very white; and, as it appeared free from redness and increase of colour, the general concomitant of disease, we were led for a while to consider the lungs as not the seat of the disorder, as others had done (for several of the pupils were present at this dissection). On cutting into its substance, no inflammation was perceivable; on examining them more closely, we observed a small bladder or vesicle on the outside of the lungs, the external involution pleuris coat; this was convected by some who were present to be a tuberelle, and that tuberelles might be the cause of the broken wind. Suspecting, however, from its appearance, that it was not solid, but contained air, it was punctured, and it immediately subsided. This instantly suggested to the writer of this article, that the lungs were actually in a state of emphysema, or that air was contained in a state of extravasation in their substance, and which not only seemed evidently the cause in this instance, but we have since fully verified it by examination and dissection of a considerable number of cases of broken wind, and found that it is the constant appearance. This extravasation of air in the substance of the lungs is perhaps occasioned by a rupture of the air-cells, as suggested by Mr. Coleman at that time, unless it is formed in them, and thrown out by some morbid operation of the blood-vessels, as sometimes happens in the intellines and vasa; for the exact way in which this emphysema arises has not been yet ascertained. It fully explains the cause of the white appearance of the lungs, the membranes being separated and divided; the air lying between them partially admit the light, also the puffy appearance they make, and the crackling noise they give on their being handled; all admit of a ready explanation by this discovery, and do the symptoms which attend the disorder; the common air escaping, from disease, or a sudden rupture of the cells, into the membranes composing the lungs, thereby compresses and obliterates more or less the natural cavities defined for the reception of the air, and thus occasion the effort we observe to overcome this obstruction, and which naturally induce the appearances we have described as the symptoms attending this disorder; it also accounts for its incurability, and the oppression which a full stomach occasions. As the extravasation proceeds, the complaint gradually, or sometimes suddenly, increases, so as to be intolerable to the animal; and at length being quite useless, he is necessarily destroyed. In some cases, the disease, without much increasing, may exist for many years; and till the horse dies from other disease or age. This white appearance of the lungs it is that had deceived for so long those who had been led through curiosity to examine the lungs in this complaint; it being so unusual to see any part in a state of disease more delicately white than in its healthy state; and singular it is, that the extravasated air should not bring on the inflammation and destrution of these organs.

Horses, in bad cases of broken wind, are observed to void air in considerable quantities by the anus, as though the extravasated air of the lungs was absorbed and carried to the intestines; or it is probably only indigestion which is the cause of this: and the smiths, not unfrequently, on this account, cut through and divide the sinew at the hind leg, then the power of closing the rectum is lost, and the air escapes without any noise; and they are led from hence frequently to imagine they have cured the complaint.

We are now led to consider what the cause is, which in the general estimation of mankind leads horses to this disease, viz., their being allowed too much water; and here, we apprehend, every observer of common sense and humanity must be shocked at the recollection of what infallancies have fallen within his own observation of cruelty in this respect, and of what horses are daily and hourly suffering from the most barbarous of all customs, the denying of a sufficiency of water to found horses to prevent their becoming broken-winded. True it is, that water administered to horses in an improper manner, especially after the privation above spoken
spoken of, may become a cause of their being broken-winded; but would any one infer from this, that it is necessary that all horses should be kept almost entirely without water, exposed to a never-ceasing thirst, till an opportunity of gratifying the appetite in this way occurs; and the natural and healthful beverage being too largely taken, becomes a poison, and induces the very mischief which so much cruel and unfeeling pains had been taken to avoid; for the horse that is allowed to drink frequently and as much as he likes, will never from this source become broken-winded. No horse on a common, exposed to the water of the brooks, which he can partake of as often as he pleases, will ever become broken-winded from this cause, unless he had previously suffered a privation of water, and, in his first excels to overcome his thirst, had injured himself. Let us now consider, under what circumstances it is advantageous to deprive a horse, for a time, of his water. The traveller, who starts in the morning on his journey, would be incommoded, if the horse's stomack was loaded with water; it is quickly absorbed from the stomack, and passing off in perspiration, becomes unwholesome and troublesome; and though it may be true, that perspiration is not too heavy, by keeping a moisture on the skin, and by its evaporation, induces a coolness that might be refreshing, yet to be inundated with it would be highly disagreeable. The water should, therefore, be given at an earlier hour in the morning, and should have time to pass off before the horse is used on the road; and if he be deprived, in a great measure, of it during the day, he should be the more plentifully supplied with it during the night-time, so as not to create a violent thirst, which can only be gratified, the first opportunity that happens, at the expense of his health, or perhaps his existence.

Sorry should we have been, if, after much inquiry into the nature of this disease, we should have discovered that the above practice of depriving horses almost entirely of water, though cruel, was necessary; and that we must acquiesce, with painful sensations, in the use of this custom. We are, on the contrary, convinced from experience, as well as the most incontrovertible reasoning, that the practice is as destructive and pernicious, as it is cruel and unnatural; for we are aware, the suggestions of humanity would avail but little, where an opposite course would best serve the interests of mankind in regard to this animal; however, they are, fortunately for it, not inconsiderable; on the contrary, all the comforts he can receive will blunt his irritations and labours.

It should be recollected that the horse is fed on the dryest food, as corn, beans, bran, hay, &c. and this requires, to its being well digested, a certain portion of moisture, which must be either derived externally, or from the blood; and horses are often expected to work hard under these circumstances, to sweat and perspire profusely, and digest their food as well, without any water; the consequence of this is, that their dryness and thirst must arrive at a pitch that is scarcely governable; and to these cauas we may add, as contributing to the mischief, the hot, crowded, low-ables of large towns and cities, where they are often, in consequence of such treatment, seized with various inflammatory complaints, as affections of the limbs, eyes, brain, and lungs, and other diseases. They are sometimes miserably allowed to wet their mouths on the road, and this is deemed sufficient for their wants; or, if they by any accident get to water, the consequences ensue that we have above described.

With chaises and post-coaches are ever seen the greatest number of broken-winded horses, because the artificial and mischievous system purveyed by the drivers of such vehicles naturally lead to it. It is a practice with the brewers' dray-horses, both in the metropolis and the country, as often as they come home, to let them go to the trough and drink their fill; among these broken-winded horses are very rare, though they have all the water they can desire.

Filling horses all over with cold water, while in a profuse sweat, we believe not to be so injurious a custom as would at first appear, if the law for its application is understood, but, on the contrary, very beneficial and refreshing. Tho' those who do it should be apprized of the danger of carrying it to the extent that would chill the horse, when the worst confections would often ensue: to avoid ill effects, the horses, after this bathing, should not be left long to stand still and chill, or in any cold place, or draft of air; but while his skin is yet warm, (in the case of a return chaise,) he should be put in, and drove home, till again perspiration is fully induced upon the skin, when all danger would be prevented; and it would be best, perhaps, not to repeat it, at least to the same extent, on his arrival home: as he is then to stand still in the stable, there would be some risk of inflamed lungs, inflamed feet, or the gripes, from the blood being confined in the interior of the system.

Muddy water is often conceived to be best for horses, and is given them in preference by some grooms. A horse, however, must arrive at an extraordinary degree of thirst before he would touch it; and it is only better, as being in general warmer, having been exposed to the air and sun, and is certainly safer for horses than water drawn from a cold spring or deep well; the contrast of temperature being too great with the horse heated by violent exercise.

When the cause of any disease is not understood, the theories for its explanation will be vague and unsatisfactory, and the remedies various, often opposite, and almost infinite, and so it has been with this complaint; for there is nothing can equal the absurd nostrums recommended in books of farriery, in this complaint in particular, as well as in some others; and the farther we go back, the more sure and found is the information respecting it. The ideas of the Romans were coarse and absurd; but the Greeks appear to have had a better knowledge of it, as seen from the following translation given by Kueutus: "Cum in pulmonibus quid rumpi caperis, hoc est ut pulmonis et maximi Grahis acqua pulmonis ruptionis applanatur," and it is afterwards much better described, in a chapter given by Theonellus in the same work, and at considerable length, too much to do at a moment in this place. Whether, however, the term "Pulmonis ruptionis" did really convey to their ideas the actual cause of the disorder, may be doubted by the context, any more than broken-wind to an Englishman, or Chval pouoff to a Frenchman. The ancients appear to have had a belief in its being cured, especially before it became inveterate; the remedies they mention, however, may be fairly suspected of poftulating any such power.

We cannot conclude this article more usefully to the public than by cautioning them against a common practice, especially among the lower order of horse dealers, of violently squeezing the wind-pipe and throat, to ascertain if a horse be broken-winded, which is often attended with the most mischievous consequences; the cough will be in proportion to the violence of the irritation used, and this even in cafes of broken wind, unless in the last stage of it, when other symptoms sufficiently denote it; so that, as a criterion, we believe it to be of little value.

A grey poney was brought to the Veterinary College, during the professorship of M. St. Bel' in the year 1791, with great difficulty of breathing, a copious discharge of saliva from the mouth, and a running at the nose; so far it appeared somewhat like glanders; but the glands under the jaw
jaw, and all the external parts of the throat, were free from
swelling.

The difficulty of breathing was considerable, and threat-
ened suffocation; this induced us to suppose some obstruc-
tion was the cause, either in the nostrils, faucies, or larynx.
The operation of bronchotomy was had recourse to, which
immediately relieved him: present suffocation being
thus prevented, our next plan was to remove the obstacle,
which we imagined might be in the nose. The frontal
bone was trepanned, and it was intended to trepan the
nasal bone, but this was not executed, for the pus from
the former found its way through into the nose, and the
nostril was injected every day, through this opening, with a
warm decoction of herbs. As the orifice in the trachea every
day became smaller, it was difficult to keep in the canula,
which accidentally a few days after falling out, the horse
was suffocated and expired. On opening the head, there
was no obstruction any where to be found; on opening the
larynx, the true cause was discovered.

The internal membrane that lines the larynx, or wind-
pipe, was enlarged or dilated with a fluid, in a way that
prevented the admission of air. This membrane was
detached from the sides of the larynx, and to dilated, that
the two portions met each other in the centre of the pipe,
forming two hemispherical tumours, which acted as valves,
and completely excluded the admission of air. On cutting
into these tumours, they were composed of cellular membranes,
dilated by a small portion of fluid; the surrounding parts
did not bear any marks of inflammation. If these tumours
had formed on one side only, they might have been
attributed, perhaps, to some puncture, or some injury from
bleeding, or other cause of this sort; but being on both
sides of the throat, it is probable both sides must have been
irritated, to produce it, and nothing so likely as violent
compulsion of that sort we see men use when they propose
to try horses for broken wind; for they endeavour to squeeze
the pipe till both sides meet, otherwise the horse will not
cough, or only slightly. Since this, another exactly similar
case was brought to one of the slaugther-houses of town,
while we were casually laying there, and the horse was said
to die of suffocation, they could not tell why. On examining
the larynx, a similar mischief was discovered.

During the last five years, we have opened more than 10
horses that were broken-winded, and uniformly found the
lungs emphysematous: violent breathing and appearances,
in every respect like broken wind, attend other affections
where the lungs are injured, as in large abscesses forming in
the lungs, water thrown out in the chest in roasters, and
even violent pain in any part of the body, will produce
appearances resembling broken wind, which again disappear
when those affections are removed.

When the stomach is loaded, especially with water, all the
symptoms of this disorder are more easily remarked, especi-
ally on exercise; it is, therefore, one of the most sure means of
ascertaining it; and on this account horses with this com-
plaint, are in general kept from drinking great quantities
of water, which they are much disposed to do, probably from
the fever observed to attend the complaint, and also, perhaps,
from the blood in the lungs not undergoing so completely
the changes it ought to do in that vice.

Some horses are differently affected in broken wind to
others: the respiration is quickened in some without much
heaving, and the abdomen in such is contracted and hard,
instead of being large and pendulous. It is sometimes
attended with a cough, which is not deep, but short and
hard, as though the lungs refilled perfectly the impulse
of this exertion. On exercise the cough is much increased,
after which he seems relieved; the head in coughing is held
low, his neck stretched out as though he endeavoured to
bring something from his throat: "quaest officia deco-
rufa?" the face has a rigid emaciated appearance,
resembling, though less violent, that contraction which
attends lock jaw. The eyes are often yellow from diffused
bile; the nostrils dilated and rigid. The appetite is not
affected by it, if anything it is increased.

The writer of this article endeavoured to rupture the cells
of the lungs of a found horse, by inflating them, and laying
weights upon them, and found that no moderate preasure
would do it; indeed when removed from the body, no expe-
riment could be very satisfactory, and he desisted from
further experiments with this design.

BROKER. The origin of the word is contested; some
derive it from the French broyer, "to grind;" others from
brocander, "to cavil or riggle;" others deduce broker from a
broker broken, and that from the Saxon broc, "misfortune;"
which is often the true reason of a man's breaking.
In which view, a broker is a broken trader, by misfortune; and
it is said that none but such were formerly admitted to that
employment.

Brokers are of several kinds; exchange-brokers, in-
urance-brokers, stock-brokers, and pawn-brokers.

Brokers, exchange, are a sort of negotiators, who con-
trive, make, and conclude bargains between merchants and
traders, in matters of money or merchandise, for which
they have a fee, or premium. See Exchange.

Thefe, in our old law-books, are called brokers, and in
Scotland, brocarr, i. e. according to Skene, mediators or
intercessors in any contract, &c. See Brozeneta.

They make it their business to know the alteration of the
course of exchange, to inform merchants how it goes, and
to notify to those who have money to receive or pay beyond
sea, who are proper persons for negotiating the exchange
with; and when the matter is accomplished, that is, when
the money is paid, they have for brokerage, two shillings per
100 pounds sterling.

Thefe, by the latitudes of S and W William III. 6 Ann. c.
16, are to be licensed in London by the lord-mayor and
aldermen, who administer an oath, and take bond for the
faithful execution of their office; and any person acting with-
out such a licence and admission, is liable to the forfeiture
of 50l. and persons employing them forfeit 50l. This is also
the cafe at Brifol, by flat. 3 Geo. II. c. 31. They are also to
regulate contracts, &c. under the like penalty; and not to deal
for themselves on pain of forfeiting 200l. They are like-
wise to carry about with them a silver medal, having the
king's arms, and the arms of the city, &c. and to pay 40s.
a year to the chamber of the city.

In France, till the middle of the seventeenth century,
their exchange brokers were called "courtiers de change;"
but by an act of council in 1639, the name was changed
for that more creditable one of "agent de change, banque,
et finance;" and in the beginning of the eighteenth cen-
tury, to render the office still more honourable, the title of
"king's counsellors" was added.

At Grand Cairo, and several places of the Levant, the
Arabs, who do the office of exchange brokers, are called
"consuls;" the manner of whose negotiating with the Euro-
pean merchants has something in it fo very particular, that
we have referred it to a distinct article.

The exchange-brokers at Amfterdam, called "makelaars," are
of two kinds; the one, like the English, called "worn
brokers," because of the oath they take before the burgo-
masters; but the owners negotiate without any commi-
nion, and are called "walking brokers."—The firft are in number
395; whereas of 375 are Chriftians, and 20 Jews: the others
are nearly double that number; so that in Amfterdam there
are nearly 1000 exchange brokers. — The difference between the two consists in this; that the books and persons of the former are allowed as evidence in the courts of justice; whereas, in cases of dispute, the latter are disallowed, and their bargains dishonoured.

The fee of the sworn exchange brokers of Amsterdam is fixed by two regulations, of 1613, and 1623, with regard to matters of exchange, to eighteen fols for 100 livres de gros, or 600 florins, i.e. three fols for 100 florins; payable, half by the drawer, and half by the person who pays the money. But custom has made considerable alterations therein.

The Jews, Armenians, and Banians, are the chief brokers throughout most parts of the Levant and the Indies. In Persia, all affairs are transacted by a sort of brokers whom they call "delil," i.e. "great talkers." The manner of making their contracts is very singular, and has been explained under the article Banians.

The French distinguish two kinds of brokers; one for the service of merchants, the other of manufacturers, artificers, and workmen. The business of the former is to facilitate the sale of goods in the wholesale and mercantile way; that of the other, to procure the goods wanted for manufacturers, artificers, &c. or to sell their goods when made. At Paris there is a company of tradesmen, or even mechanics, but have their brokers, who are usually taken out of their body, and make it their business to negotiate in the particular kinds of goods to which such company is by statutes restrained. There are brokers for drapery, brokers for grocery, brokers for mercery, &c. There are even brokers for tanners, curriers, cutlers, and the like. D.ict. of Comm.

Brokers, insurers, or policy, are agents who transact the business of insurance between the merchant or party injured and the underwriters or insurers. These insurers, brokers, from the nature of their employment, ought to be, and indeed generally are, persons of respectability and honour, in whom unlimited confidence may be reposed. To the broker the merchant looks for the regularity of the contract, and a proper selection of responsible underwriters: and to him, also, the underwriters look for a fair and candid disfavour of all material circumstances affecting the risk, and for the payment of their premiums. There is usually an open account between each broker, and every underwriter, with whom he has much dealing. In this account the broker makes himself debtor to the underwriter for all premiums, and takes credit for all losses to which the underwriter is liable, and which the broker is authorized to receive. Indeed, it is generally understood, that by the usage of trade in London, the underwriters give credit only to the broker for their premiums, and can retract only to him for payment; and that he alone, and not the underwriters, can recover the premiums from the insured. This point, however, has never been settled by any judicial determination. But though the underwriter thus looks to the broker for his premium, and though the broker in his account with the underwriter, takes credit for the losses and returns of premiums, which he is authorized to receive from the underwriter; yet, such losses are not to be regarded as a debt from the underwriter to the broker. In the case of the bankruptcy of a policy broker, the court of king's bench (23 Geo. III.) held, that though credit for the premiums must be given to the broker, because the underwriters know nothing of the principals; yet, that they could not set off the losses or returns of premium due to the principals, and which they only could sue for, against a debt due from the defendants to the bankrupt. In this case, the defendants had no commissary del credere. In a subsequent case, where the action was brought by the assignees of an underwriter against the factor, it was determined (26 Geo. III.) that the defendant might set off losses upon policies subscribed by the bankrupt, and due to the defendant's correspondents; but that the defendant had a commission del credere, which, lord Mansfield said, made him liable to his correspondents for losses, without first bringing an action on the policy against the underwriter.

Where the merchant happens to reside at a distance from the place where he means to be insured, the policy is usually effected by the mediation of his agent or correspondent there, who, if he be not a broker, employs one, and gives him all necessary instructions. In order to his being an agent in such a case, he must either have express directions from the principal to cause the insurance to be made, or else it must be a duty arising from the nature of his correspondence with the principal. And no general authority which he may have in relation to a ship or goods, will make him an agent for the purpose of insuring, or behalf of the parties interested. However, though one man cannot, in general, compel another against his consent to become an agent for procuring an insurance to be effected for him, there are three cases, in which an order toinsure must be complied with: as, 1st, where an agent has effects of his principal in his hands; 2ndly, where he has been in the practice of making insurances, and has given no notice to discontinue; and, thirdly, where he accepts bills of lading left him on condition to insure.

To the office of agent or broker, great responsibility attaches; and, in the execution of it, it is the duty of each to conduct himself with the greatest fidelity, punctuality, and circumference. For in this, as in all other cases, where a man, either by an express or implied undertaking, engages to do an act for another, he either wholly neglects to do it, or does it improperly or unskilfully, an action on the case will lie against him to recover a satisfaction for the loss or damage resulting from his negligence, or want of skill. Hence, if a merchant here accept an order from his correspondent abroad to cause an insurance to be made, but limits the broker to too small a premium, in consequence of which no insurance can be effected; he is liable to make good the loss to his correspondent; and, if he does not receive the insurance done at as low a premium as possible, yea, he has no right to limit the premium, as to prevent the insurance from being effected. And even a voluntary agent, who has no prospect of remuneration for his trouble, is liable, provided that he takes any step in the business.

It is not only the duty of the agent, in transacting the business of insurances, to conduct himself with fidelity and punctuality towards his employer, but he is also bound to observe the strictest veracity and candour towards the insurer: for any fraud or concealment on his part will avoid the policy, even though the injured be altogether ignorant and innocent respecting it.

In an action against an agent, or broker, whether for negligence or unskillfulness in effecting an insurance, the plaintiff is entitled to recover to the same amount as he might have recovered against the underwriters, if the policy had been properly effected. But he can only recover what, in point of law, he might have recovered on the policy; and not what the indulgence or liberality of the underwriters might probably have induced them to pay. In such an action, the agent may avail himself of every defence, such as fraud, deviation, non-compliance with warranties, &c. which the underwriters might have set up in an action on the policy; but if the agent act in the usual manner, it will be deemed sufficient.

There are many reasons why an agent or broker ought not to be an insurer. He becomes too much interested to settle with fairness the rate of premium, the amount of partial losses,
In an agent or broker, meaning to appropriate the premium to himself, and take the chance of a safe arrival, he is probably not, by underwriting the policy, to deprive the parties of his unbiased testimony, or other dispute.

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Brokers, or pawnbrokers, are those employed to buy and sell fences in the joint stock of a company or corporation; and also, in the public funds. The negotiations, &c. of these brokers, are regulated by the 5 Geo. i. cap. 18 and 7 and 12 Geo. iii. cap. 7, among other things, the nature of the transactions, in the nature of wages, &c. incur a penalty of 50cl. and by the sale of stock, of which the seller is not poissified, and which he does not transfer, a forfeit of 100cl.; and contracts for sale of any stock, of which the contractors are not actually poissified, or to which they are not entitled, are void, and the parties agreeing to sell, &c. incur a penalty of 50cl.; and that brokers keep a book, in which all contracts, with their dates, and the names of the parties concerned, shall be entered, on pain of 51l.: these enormities, however, are little regarded by the gamblers in the public funds. See Stock-jobbing.

Brokers of household furniture. See Appraisers.

Brokers, pawn, are persons who keep shops, and let out money to necessitous people upon pledges, for the most part on exorbitant interest. These are more properly called pawn-takers, or tally-men, sometimes fripers, or fripersers.

Of these is to be understood the statute of 1 Jac. i. c. 21, by which it is enacted, that the sale of goods, wrongfully gotten, to any broker in London, Westminster, Southwark, or within two miles of London, shall not alter the property thereof. If a broker, having received such goods, shall not, upon the request of the right owner, truly discover them, how and when he came by them, and to whom they are conveyed, he shall forfeit the double value thereof to the said owner.

But there are several excellent regulations respecting pawnbrokers of later date. By Stat. 25 Geo. iii. c. 48, pawnbrokers are annually to take out a licence on a 10l. stamp, within the bills of mortality, and 5l. in any other part of the kingdom, for each shop kept, under a penalty of 50l. By Stat. 29 Geo. iii. c. 57, confirmed by Stat. 31 Geo. iii. c. 52, and 33 Geo. iii. c. 53, pawnbrokers are allowed the following rates of profit for interest and warehouse-room. For every pledge upon which there has not been lent above 25. 6d. one halfpenny, for any time during which the said pledge shall remain in pawn, not exceeding one month, and the same for every month afterwards, including the current month in which such pledge shall be redeemed; for 50., one penny; for 75. 6d., one penny half-penny; for 10s., two-pence; for 12s. 6d., two pence half-penny; for 15s., three-pence; for 17s. 6d., three-pence half-penny; for 1l., four-pence; and so on progressively and in proportion for any sum not exceeding 45s. and for every sum exceeding 45s. and not exceeding 15l., at the rate of 3d. and no more for the loan of every 20s. of such money lent by the month; and so in proportion for any fractional sum. A party applying for the redemption of goods pawned, within seven days after the expiration of any month, may redeem them without paying any thing for the seven days; and applying after seven days, and within sixteen days, pays the profit for one month and the half of another month; but after the expiration of the first fourteen days, the pawnbroker may take for the whole month. He is required to make entries, and to give duplicates. Any person fraudulently pawnning the goods of another, and convicted before a justice, shall forfeit 20s. and the value of the goods pawned, &c. to be ascertained by the justice; and on failure of payment, be committed to the house of correction for not more than three months, nor less than one month, and be publicly whipped; the forfeitures being applied to the satisfaction of the injured party, and the defrauding of colls, and the overplus, if any, to the poor of the parish. Any person counterfeiting or altering a duplicate, may be seized and taken before a justice, who is to commit the offender to the house of correction for not more than three months, nor less than one. If a person shall offer to pawn any goods, refusing to give a satisfactory account of himself and the goods; or if there be reason to suspect that the goods are stolen; or if any person, not entitled, shall attempt to redeem goods pawned; they may be taken before a justice for examination; and if it appear that the goods were stolen or illegally obtained; or that the person attempting to redeem them has no title or pretence to the same, the justice is to commit him to be dealt with according to law, provided the nature of the offence shall authorize such commitment by any other law; or otherwise, for not more than three months, nor less than one. A justice may grant a search-warrant, and a peace-officer break open doors, and remove the goods, if found, to the owner. If pawnbrokers refuse to deliver up goods pledged within one year, on tender of the money lent and interest, a justice is empowered, on conviction, to commit them till the goods be delivered up, or a satisfactory satisfaction be obtained. Goods may be sold by public auction after the expiration of one year; being exposed to public view, and catalogues of them published, and twoadvertisements of sale by the pawnbroker to be inserted in some newspaper, two days at least before the first day's sale, under penalty of 5l. to the owner. Pawnbrokers, receiving notice from the owners of goods before the expiration of a year, are not allowed to dispose of them, till after the expiration of three months from the end of the said year. They are to enter an account of sales in their books of all goods pawned for upwards of 10s.; and the overplus, in case of sale, shall, upon demand within three years, be paid to the owner, necessary interest, costs, &c. being deducted: and refusal to pay the overplus shall incur a forfeiture of treble the sum lent, to be levied by distraint. Pawnbrokers shall not purchase goods in their curdly, or suffer them to be redeemed for that purpose; nor lend money to any person appearing to be under twelve years of age, or intoxicated, or purchase duplicates of other pawnbrokers, or buy any goods before eight in the forenoon, and after seven in the evening; nor receive any goods in pawn before eight in the forenoon, or after nine at night, between Michaelmas and Lady-day; and before seven in the forenoon, and after ten at night, during the remainder of the year, except the evenings of Saturday, and those preceding Good Friday and Christmas day; nor carry on the trade on any Sunday, Good Friday, or Christmas day. Pawnbrokers are to place in their shops, a table of rates allowed by this act; and they are required to have their Chrifitian and surname, and business, written over the door, under a penalty of 10l. half to the informer, and half to the poor. Pawnbrokers offending
ing against this act, in cases where no penalty is provided, shall for every offence forfeit 5l. leviable by distress, half to the informer, and half to the poor. Complaint shall, in all cases, be made within twelve months. This act does not extend to pledges for money above 10l., nor to persons lending money upon goods at 5 per cent. interest.

In the cities of Italy, there are companies established by authority for the letting out money in pawn, called "mounts of piety;"' an honourable title, like that of the charitable eperoration,' but little becoming such institutions; for, as much as the loan is not gratis. In some parts of Italy, they have likewise "mounts of piety" of another kind, wherein they only receive ready money, and return it again, with interest to be paid per annum. At Bologna, they have several high "mounts;" which are distinguished into frank and perpetual; the interest of the former is only four per cent. in the letter, even.

** BROKAY, the fee paid to a Broker.**

** BROKAY, in Geography, a town of Hindustan, in the country of Landesh 3 miles S.W. of Bucharpan.**

** BROLO, a town of the island of Sicily, in the valley of Demona: 7 miles W. of Patras.**

** BROMBE, a town of Poland Prussia, seated on the river Bro, called also Bidoth, which was.**

** BROME, Alexander, in Biography, a poet of the 17th century, was attorney of the lord mayor's court of London in the reign of Charles II., and wrote the greatest number of the songs and epigrams that were published in favour of the royalists, and against the "trump" in the time of Oliver Cromwell, and during the rebellion. He, with his epistles and epigrams, translated from different authors, were printed in one volume 8vo. after the restoration. He also published a version of Homer, and left behind him a comedy entitled "The Cuming Lovers." He also published two volumes in 8vo. of the plays of Richard Brome, a dramatic writer in the reign of Charles I., who had been originally a military servant to the celebrated Johna. One of the plays of R. Brome, called "The Jovial Crew," was not long ago revived, and successfully exhibited. He died in 1552. The editor of his plays, A. Brome, was born in 1620, and died in 1666. Doug. Dram.**

** Brome, in Geography, a town of Germany, in the principality of Lincnburg-Zelt, seated on the Oire, and belonging to a jurisdiction of the same name, which comprises a part of the march forest of Dronling.**

** Bromes grafs, in Botany. See BROMUS.**


Gen. Char. Calyx triad, three-cornered, superior, permanent; segments three, ovate. Cor. either monopetalous with three deep divisions, or of three petals, narrow, lanceolate, erect, longer than the calyx. Nectar, adhering to each petal above the base, converging. Stema, filaments six, awl-shaped, shorter than the corolla, inserted into the receptaculum. Linum. Schreb., on the corolla or calycine glands. Bot., on calycine glands produced above the germ (chance in some degree glanduliferous) Joff. Authors erect, arrow-shaped. Pyl. germ inferior; style simple, thread-shaped, the length of the stamens; stigma obtuse, triad. Pericarp, a berry or capsule, one or three-celled. Seeds, somewhat oblong, obtuse. Eff. Char. Calyx trident, superior. Cor. with numerous secales at the base.

Species. 1. B. Ananias, pine-apple. (La Marck Ill. Pl. 225.) Leaves ciliate-fimbriate, sharp-pointed; spike 8vo. Linn. Root perennial, fibrous. Root-bases from two to three feet long, and from two to three inches broad, cambered, often a little glaucous. Stem short, cylinder, thin. Leaf. Spike glomerous: deit. fey, red or brown, crowned with a tuft of leaves. Flowers to four feet, and leaves, but smaller. This allies itself, male, and is scattered upon the calyx, thick, fiddle, receptacle. Green, half buried in the fulness of the receptacle, white, with the flowers fall off, increases in size, and becomes a mere. fruit, covered on all sides with thin, brown, rough, hard, and resembling the tulle of the grape. The common English name is derived. It is a native of South America, and is said to be found also in Africa and the East Indies. 2. B. Karatasia. Linn. Leaves cresc. long, narrow; flowers fiddle, aggregate, subrhombic. Stem perennial, fibrous, blackish. Leaves smooth, light-green, disposed in a kind of circle, and having a large open space in the middle. Flowers numerous, purple, or bluish, fiddle on the crown of the root, and forming a close, oblong, denser group. Calyx and germ covered with a furrugious down. Petal, fiddle-shaped. Pericarp, berry ovate, three-celled, very fleshy, succulent, of an agreeable, acridulous taste, when ripe. Seeds oblong. La Marck, from the MSS. of Plummer. A native of South America and the West Indies. 3. B. hemisphorica. La Marck. "Subcamptica; flowers fiddle, disposed in a close hemispherical group. Nearly allied to the preceding; but the leaves are more open and shorter; and the root, when the plant is in fructification, throws up a very short stem. La Marck supposes that the humilitas Linnanae is only a variety of the hemisphorica, of a smaller size, with fewer flowers, and less pleasant fruit. A native of Mexico.**

** Flowers upon distinct receptacles, with polypetalous corollas; the proper bronicles of Plummer.**

4. B. Pinguin. Linn. Leaves ciliate-fimbriate, sharp-pointed; raceme terminal. (La Marck Ill. Pl. 225.; Gurt. Pl. 11. fruit.) Resembling B. ananias in general habit. Root perennial. Leaves five or six feet long, according to Joaquin, more than those of B. ananias, green above, and covered with a whitish powder beneath; the inner ones red and shorter than the others. Stem cylindrical, thick, firm, two or three feet high, pubescent, surrounded by the red interior leaves. Stems pale red, or whitish, diminishing in size as they approach the summit of the stem. Flowers roset-coloured, fiddle, in the axils of the upper leaves, and forming a beautiful, pyramidal spike. Fruit about the size of a walnut, ovate-pyramidal, obtusely three-corned, threecelled, covered with a thick subfuscos fusco and rugulose, with confluent dots, and terminated by the permanent, trident stigma resembling a tuft of small leaves. The fruit is described by La Marck as a capsule, but is said by Brown (Jamaica) to have an agreeable sweet pulp, joined with such a sharpness, that, if suffered to continue in the mouth, it will cause the blood to ooze from the palate and gums. A native of the West Indies. Description chiefly from La Marck.

5. B. radiata. Linn. Radix leaves dentate-simplici; stem leaves very entire. Linn. Root perennial, paratactic, attaching itself to the trunks of large trees. Root-leaves two feet long, three inches broad, fiddle, convex, smooth, green, pointed, and edged with strong black spines. Stem cylindric, firm, thick, two or three feet high, covered with a short down, which generally gives it a whitish colour, though it is sometimes almost entirely red. Stem-leaves or leaves oblong, very entire, part red or purple, part whitish. Flowers roset, rote-coloured, fiddle, not accompanied by secales, whence
Bromelia.

whence its trivial name, and by which it is so clearly distinguished from the preceding, that it ought to form part of the specific character. *Bryoeis ovata*, of a bright red colour. Its leaves, like those of the European *dispatia*, or teak, retain the water from rain and dew, and afford a delicious draught to the hunter and traveller in its native forestage climate. Common in the woods of the West Indies, and fruit from the coast of Guinea to Mr. Miller. 6. G. *ferrugina*. La Mareck. *Radical leaves short and spinous; stem-leaves very long and very entire, without spines.* Burn. Amer. *Root-leaves lanceolate, sharp-pointed, frittered, covered beneath with a whitish powder, and a little enlarged at the base. Stem or Stems cylindrical, firm, about the thickness of the finger. Stem-leaves sword-shaped, pendent. Flowers of a beautiful red, in a clog pyramidal spike. *Bryoeis lanceolate. Corolla three-petalled; petals as inch and a half long, ending in a small purple point.* Native white, included in the corolla. Native of Martinique. 7. B. *fugacita.* Linn. *Leaves farrate-spinous, obtuse; spikes alternate.* Mill. *Root perennial, fibrous. Root-leaves, some almost lying on the ground, others upright, pale green, concave, many of them rolled up into the shape of a horn, and terminated by a short blunt point. Stem four feet high. Stem-leaves alternate, oblong, pointed, concave, without spines. Spikes, one terminal, the others in the axils of the leaves, or upper leaves of the stem. Flowers small, felifile. *Bryoeis round, with a small point, in simple racemes, of a bright coral red. Seeds small, oblong, reddish.* Native of the West Indies. 8. B. *bracteata.* Willd. *Leaves farrate-spinous; bracts ovate-lanceolate; leaf elongated; raceme compound; bractlets subdivided; flower felifile.* Swartz. *Root perennial, paraffical. Bryoeis scarlet, membranaceous, very entire.* 9. B. *paniculatana.* Willd. *Leaves farrate-spinous; bracts lanceolate; raceme compound; bractlets subdivided; flower pedunculated.* Swartz. *Scope more than a foot high. Bryoeis scarlet, alternate, membranaceous, half a foot long. Raceme two feet long, erect. Peduncles an inch long, tormentose.* 10. B. *Chrysantha.* Willd. *Leaves farrate-spinous; bracts lanceolate, toothed; raceme subcompound, shorter than the leaves; flowers pedunculated.* 11. B. *Aenangia.* Linn. *Panicle diffuse; leaves ciliate-spinous, sharp-pointed, recurved.* Native of Brazil. This species, which appeared in the first edition of the Species Plantarum, was omitted in the second, from a doubt whether it is specifically distinct from B. *Karatas*; but, on further consideration, it was replaced by Linnaeus himself in the Systema Naturae, and has been admitted by the subsequent editors of the Species Plantarum, but is not noticed by La Mareck.

Plumier, and the other older botanists, divided this genus into three; *Aenan*, *Karatas*, and *Bromelia*. The flowers of the *Aenan* are fifulae, are in a close spike, on a scape which is leafy at top; as the spike ripens, it takes the form of a fishy, scaly, fceleant fribole, composed of united berries, which are fearfully divided into cells, and frequently do not ripen their seeds. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. La Mareck, if he were not unwilling to increase the number of genera without absolute necessity, would be disposed to keep the *Aenan* and *Karatas* united, on account of their common receptacle and monopetalous corolla, and to separate the rest which have poly-petalous corollas on distinct receptacles. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. La Mareck, if he were not unwilling to increase the number of genera without absolute necessity, would be disposed to keep the *Aenan* and *Karatas* united, on account of their common receptacle and monopetalous corolla, and to separate the rest which have poly-petalous corollas on distinct receptacles. The *Ananas* and *Karatas* united, on account of their common receptacle and monopetalous corolla, and to separate the rest which have poly-petalous corollas on distinct receptacles. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry. The *Karatas* have a dense radical corymbus, and ovate berries. The *Bromelias* are loosely spurred or panicked on a scape or stem; and the fruit can fearfully be called a berry.
should remain till Michaelmas, and then be removed into the
flöve, and treated like the ananas. The penguin is culti-
vated in precisely the same manner. Neither of them will
produce their fruit in England, till they are three or four
years old. The latter being very spiny makes an impe-

cettrable hedge, and is much used in the West Indies for
fencing pasture lands.

The other species are cultivated only for curiosity, and
are raised from seeds brought from their native country, not
producing any in England.

Besides the varieties of the B. annua, or pine-apple,
above mentioned, there are others known to gardeners, and
sometimes introduced into cultivation.

The culture of the pine-apple is more difficult, and re-
quires a more exact and nice attention in its management, in
this climate, than that of almost any other plant. It is only
capable of being accomplished so as to afford good fruit, by
the assistance of the flöve of the hot-houfe, with the arti-
ficial aid of fire heat. And in order to effect the business
with the greatest care and convenience, and in the most perfect man-
ner, besides the flöve of the hot or fruiting-houfe, others are
necessary for the purpose of bringing the plants forward in,
till ready to set out in the fruiting-flöve, which are trimmed nursery-flöves, or pits of successive flöves. And
where large quantities of such plants are cultivated, it is al-
so useful to have what are termed bark-pits, formed either by
deep frames of wood or of brick work six feet in width, with
sufficient length, five or six feet deep behind, and four and a
half in front, having the tops glazed; for the purpose of
making hot-beds in, for the immediate reception of the
crowns and suckers from the parent plants, and to prevent the
succession-flöve from being crowded too much. Where
the whole culture of these plants is to be effected in one flöve
only, the plants must be raised and rooted together, by
which practice not one half of the same hot-houfe can be
occupied at one time with fruiting plants; besides, the young
plants are often liable to be brought forward too rapidly.
All these different flöves and nurving pits should be provided
with proper tires and fire-places, so contrived as to work
readily and save fuel as much as possible, as upon this the
expense of the culture of these plants in a great measure de-
pends. See Hot-house Stove and Bark Pits.

It is remarked by Mr. Nicol, that flöves for this use
are variously constructed: Some are single pitted, some
double, and some even triple; some have flues running un-
der, and some round the bark-bed. These he considers as
being very dangerous to the roots of the plants, if overheated.
He also disapproves of double and triple flöves, as being
very uneafy to work in stormy weather, and confusing a vast
quantity of stagnant unwbaleable air in dull hazy weather.
A flöve which there is a perfect command of fire-
heat, and which admits a free circulation of air in all
parts, is to be preferred, and none are so convenient for this
purpose as single ones. The situations for them should be
dry, and the bottoms or floors raised above the surface of
the ground. The common practice of having borders for
vines to be trained up the rafters, Mr. Nicol considers as
highly prejudicial to the pine plants.

Preparation of the bark beds.—The circumstance of im-
portance in the culture of these plants, is that of forming the
beds in the flöves and flats. These are differently constituted
with different cultivators, and are designed for the pur-
pose of plunging the pots into, with the plants in them,
in order to their due growth, and support. These beds are
mostly composed of tanners' bark, as being a substance that
not only affords the most uniform and durable heat, but which
is best suited to the nourishment and growth of the plants
and fruit, as well as the most manageable. See Bark bed.

The great art in making of these beds, is that of producing
such an uniform moderate bottom heat as may not injure the
roots of the plants, while it is sufficient to promote their
regular growth. The author of the "Scotch Forcing Gar-

den" observes, that his idea of the quantity and quality
of bottom heat that is required by the pine, is different
from that generally entertained. He never wishes the
plants, except in flirking suckers, to stand in a bottom heat
higher than that of blood heat, and that too of a mild moist
nature. If the watch fiaks to the depth of the bottom of
the pot feels just a little warm to the hand, or when ap-
plied to the cheek, when the body is of a comfortable tem-
perature, it is sufficient; and he thinks it sufficient with
reason, that the bottom and superficial heat should corre-
pond at all times. In order more effectually to attain this
end, and that the roots may sustain no injury, he has re-
course to the following rules in forming, turning, and tre-
chering the beds. He never fits the tan in the pit, or adds
above an eighth part of new, which, if necessary, he gives
place to by skimming off a little of the surface of the old.
The new tan is never suffered to lie within a foot of the
surface, by which means the pots are instantly plunged
in the old. He lays the half of whatever quantity of new
tan is added in the bottom of the trench, and divides the
other equally to within a foot of the surface of the beds.
In trenching he throws the tides to the middle, and the
middle to the edges, that there may be an equal mixture of
the old tan. Thus the beds are rendered of a mild and
equal temperature from the first, and continue much the
same for three or four months, and after the first filling they
are attended with very little expense for new tan. It is ob-
vious, therefore, that, in filling the pit of a new pinery, it
should either be done several months before the plants are
placed in, or the tan should be well sweated and wafted,
by previous turning in an open shed, &c. And in other cafes,
it is advisable not to plunge the pots above half their depth
for the first two or three months after filling. In adding
new tan, it should invariably be thrown up in a heap for
eight or ten days before using, in order to dry and sweeten,
and should never be applied fresh from the tan yard, as it is wet
and apt to heat violently, as well as cause in the beds. It is
remarked, that some object to tan, as being expensively and
troublesome in working with; but if this method is practised,
these inconveniences will be inconsiderable; and as the plants
require frequent shifting, the trouble of whipping up the bark-beds
at such times is but trifling; the addition of new tan being
sometimes unnecessary. He is convinced that there is no
ingredient which can be substituted for tan, that will equally
answer the purpose in the pinery, and of course recommends the
use of it in preference to all others, where it can be
easily procured; and more or less of it is always necessary.
He considers oak leaves as the next best material, but they
cannot be had in many places. Where they are used, he
advises that at least eighteen inches of well reduced tan
be laid on the surface to plunge the pots in; after these,
a mixture of stable dung and tree leaves of any kind. But
they should be well fermented before they are used, and at
least two feet of reduced tan laid on the surface for the recep-
tion of the plants. It is supposed by some, that the rea-
son of pines being planted in pots instead of the surface of
the beds, is the want of permanent heat in them, as they
may be removed with more facility in the time of renewing
the bark, &c.; but Mr. Nicol has a different opinion of the
matter, so that, if the heat of the beds were ever so perma-
nent, he would grow them in pots. As all the different
plants of any kind do not grow alike in their native climates, much
lefs the pine in an artificial one, there is a necessity for hav-
ing, at least, two compartments, and growing the plants in
pots,
posts, that they may be removed, and filled according to circumstances, with the greater care and safety. Besides, many of them, if placed in any situation, do much better in pots than elsewhere; for there are all of the succulent kind, with which the piece is the pure. There would also seem another reason, which is the last: ancient nature of tan and provide a proper medium for the growth and support of the young plant.

The usual period of forcing and growing or rearing the plants is from the middle of the autumn, as September or October, a little before winter, that the heat may be kept up, the ground, and the spring, as at the latter part of April, by throwing up being given in the internal leaves, and the result of the plant is laid down with a heap, throwing on a very little earth over them, to prevent their blowing away. They should remain in this state during the winter, and till the beginning of May, when they should be turned over and mixed well together. In this way, the spring following, they will be reduced into a mould proper for life. This mould, however, must be fitted before it is employed, in order to remove pieces of thick or other improper matters. A compost of turfy vegetable mould with rich garden soil and well rotten stable dung from a hot-bed, in the proportion of one-third of the latter, which have remained together for a considerable time, is likewise recommended by some. Brown, strong, heavy earth, when reduced by long exposure to the air, is another useful material; and pigeons' dung, that has been at half two years in an heap, and frequently turned and exposed to the influence of the weather, may be employed. Also full marl, and ca or river gravel, which has been lifted and kept in a dry place, having the size of large pebbles, &c. may sometimes be employed. The proportion in which they are advised to be made of for different purposes in the culture of these plants by Mr. Nicol, is this: For crowns and suckers entire vegetable mould, with a little gravel at bottom, to strike in; afterwards three-fourths vegetable mould, and one-fourth loam, mixed with about a twentieth part of gravel, and a little entire gravel at bottom, till a year old. For year old plants, till thinned into fruiting pots, one half vegetable mould, one half loam, to which add about a twentieth part of gravel, and as much full marl with a little gravel at bottom, as above. For suckers, one half loam, a fourth vegetable mould, a fourth pigeons' dung, to which add gravel and marl, as above, and lay two inches of entire gravel at bottom."

**Raising the Plants.** — This is the next point of material consequence in the cultivation of these plants, and which is effected either by the crowns produced on the tops of the fruit, the offsets, or suckers from between the leaves, and the roots of the old plant. The latter should never be employed when it can be avoided; of the other two, suckers are preferred by some, while crowns have the advantage, according to others; but Mr. Nicol judiciously remarks, that if the former have the superiority in being the stronger plants, they have likewise the disadvantage of running to fruit more uniformly than the latter. The crowns are procured by twisting them off the fruit when it is made use of, and the suckers by breaking down the leaf immediately beneath them, and moving them gently both ways till they come off, which should not be attempted till the under parts appear of a brownish colour, and ripe, as under other circumstances they are liable to break in the middle and be spoiled. When taken off, they should each of them be cleared of a few of the lower outward leaves about the bottom where they are to form roots, by rubbing them off; some also pare the under parts of the flumps, smooth with a knife. They are then laid or hung upon a dry place for five or six days, or more, that the over moisture and wounds of the flumps, or thick parts of the plants, may be dried up and sufficiently healed over before they are planted, and the danger of their rotting be prevented. The author of the "Scotch Forcing Gardener," however observes, "that if they are perfectly ripe, and the old plants have had no water for a week or two before they were taken off (which they ought not), nothing of this kind is necessary." Each plant frequently affords many suckers, but rarely more than one crown. The crowns are usually gathered one by one as the fruit is used, and stuck into a brick-bed till the whole crop of them, as well as the suckers, can be potted together. The plants, after being thus prepared and collected, must be placed, according to their sizes, finely in pots three or four inches in diameter, and five or six deep, provided for the purpose, and filled with entire vegetable mould, as directed above, having the bottoms previously laid with clean gravel, of the size of horse beans, to the thickness of an inch or something more: some, however, only advise pieces of slate or tile to be put over the holes in the pots. The first is probably the best method, as preventing the water most effectually from flagrant about the roots of the plants.

In planting they should be put neither too shallow nor too great a depth, but have the mould pretty closely pressed round them.

The nurseries should be prepared for their reception by having new tan to the extent of a fifth or sixth part added, but none suffered to be within ten or twelve inches of the surface. In these beds, where there is a due heat, the pots should be plunged up to their brims, in regular order, at the distance of two or three inches apart, each way, keeping them perfectly level, and the largest towards the back parts. Some advise a light watering to be immediately given, but others think that neither the crowns nor suckers should have any for the first fortnight after planting, nor any ever-head the till winter, lest they should be injured in their hearts by the damp which it occasions.

As the plants thus raised only produce fruit in the second, or more generally, in the third year's growth, commonly with suckers and crowns for future increase, and become afterwards of no use but as blocks for supplying a few more suckers, there is obviously a necessity for raising fresh supplies of plants annually.

**Culture in the nursery.** — The management of the plants the first year, or while they remain in the nursery-boxes and pots, requires much attention to keep them in a regular and healthy growth by preferring a continued proper degree of heat in the beds, and a judicious application of water with a suitable admixture of free air. Mr. Nicol observes, that where the plants have been struck in the beginning of September, the beds will most likely continue of a kindly heat till about the beginning of November, but should then be wrought over, introducing about an eighth part of new tan by trenching it in. But though the plants will in general have made good roots by this period, they do not in common
common land in need of being fresh potted; such only as are in any degree matted being put into other pots of the next size to those in which they are growing. The matted part being simply taken off, they should be replaced with the bulb as entire as possible. They are then to be plunged in the beds, as in the former case, quite up to the brims of the pots, and should remain till the beginning of April; at which period the beds should be again wrought over, as directed above, and the plants have the mould wholly shaken from the roots, after which they should be replaced in the same pots with fresh mould, and replanted in the beds. In this case the roots being fresh should never be disturbed, the parts that are decayed in the flumps or other places being merely removed.

As the heat of the beds, without the aid of fire, will not be sufficient during these periods for the healthy growth of these plants, it will be requisite to have recourse to that of artificial kinds. This should be applied about the beginning of October, or the following month, according to the date of the season. In the application of this heat great care should be had to keep it so moderate as not to force the plants forwards too much, and render them in danger of fruiting unseasonably, while it is sufficient for their perfect growth. The former is shown by their drawing up with long leaves and white hearts; and the latter, by the want of the proper healthy aspect. To accomplish this in the most certain manner, Mr. Nicol recommends working the flowers so as to keep the thermometer as near as possible to 65°, at seven or eight o’clock in the morning and nine at night, until about the first of March, and then to increase it gradually to 70°, at which it should be maintained so long as artificial heat may be required. When the weather is very severe, it is likewise necessary to cover and defend the glusses in the night time, as well as occasionally in the day, with canvas for the purpose, cloths fixed with rollers and pulleys, or large garden mats. At the above period the plants usually begin to grow in a vigorous and rapid manner, and require potting again about the first or middle of May, at which time the bed should be filled up to about half its depth, and, if necessary, a very little new tan worked in. The plants should be put into pots about six inches in diameter on the inside in the tops on a medium according to their sizes, with the balls entire; and if any of them are matted, that part should be displaced, plunging them to the brims at the distance of about fifteen inches from centre to centre of the plants in the largest kind, and a foot in the smaller kinds, giving a slight watering at the time. Another potting becomes necessary about the beginning of August; and where there are three compartments, the plants should now be removed into the succesion house, the bark-beds being worked over to the bottom. The plants should be put into pots of eight inches diameter, plunging them to the brims at the distance of sixteen inches on a medium, and setting them with a gentle watering. At these periods a more free admission of fresh air becomes necessary, especially when the weather is mild and favourable. Where other houses or succession-flowers are employed in the culture of these plants, they may at this time be removed into them, in order to be more conveniently managed in their growth the second year.

Culture in the Succession Storey or Pits. In the second year’s growth it will be necessary, towards the middle of November, to work the bark beds over to half during the winter; but the plants need not be shifted, the decayed leaves about their bottoms being only twilled off, and a little fresh mould laid on the surface of the pots, where it may be requisite, replunging the pots to the brims as before. Some advise the leaves of the plants to be tied up while they are potting or removing them, in order to keep them from being bruised; but the writer just mentioned disapproves of the practice, as he finds they are generally much more bruised in tying than when left loose. The method which he follows, is to have a perforfion standing opposite to him in the time of potting, which is performed on a flag about a yard high, which business is to hold up the leaves in a loose, though regular manner, between the arms, and prepare and band the pots. In this manner he has often been able to shift an hundred one-year plants in two hours. In conveying the plants through the doors of the flumes, the person should proceed with the back foremost, by which means the leaves are saved from injury, as the pot goes first, and the leaves are drawn back afterwards.

About the beginning of March the plants again require shifting, and the bark beds should then be trampled over as before. The plants at this time must be shaken out, and replaced in the same pots, in new mould, cutting off any of the decayed roots, or the ends of the flumps, twitting off a few of the bottom leaves, plunging them as before in the beds, and giving them a slight watering. Towards the first of June, the plants should again be shifted. The bark beds being wrought over to about half their depth, and a little fresh tan added when necessary, the plants, with their balls entire, should then be placed in pots of about ten inches diameter, plunging them, at the distance of eighteen inches from centre to centre, into the beds, and settling them with a little water.

In regard to potting, it is remarked by the same author, that at all times a few of the bottom leaves should be twilled off each plant, that fresh roots may be made more readily off the surface, which tends to keep them more ready in the pots. The fire heat in these cases should be begun about the same period as before, according to Mr. Nicol, and kept to about 60 degrees of the thermometer till the beginning of March, and then gradually increased to 65° for the remainder of the season. The plants should be refreshed occasionally with a little water, according as the earth in the pots becomes dry, or as the climate of the weather demands. They should likewise have a more free admission of fresh air, whenever the season will admit of it without danger.

Culture in the fruiting-floor or hot-house. The plants raised in the nursery pots, and continued in their growth in the succession flowers, having attained a proper size and length, should, towards the latter end of August, or the beginning of the following month, be placed in the pots in which they are to fruit, in the same manner as before, and placed in the flowers of the hot-house, which should have the bark beds prepared for their reception, by trenching them over to the bottoms, and adding a foot of new tan in a proper state of preparation for the purpose, being well blended, and made so as to fill up the pots well. The pots in which the plants are now put, should be about a foot in diameter, and should be plunged in the beds to the brims, a gentle watering being immediately given. In potting the plants Mr. Nicol in these cases advises the use of a small stick to trundle the mould down between the balls and the sides of the pot, so as to leave no cavities, a circumstance which should be attended to, as being of great utility. The management in this state differs but little from that of the preceding; the chief circumstance to be regarded, is that of keeping up the heat in as regular a manner as possible, with the addition of a due quantity of refreshing moisture, and free air. The beds should, about the middle of November, be twilled up to half their depth, and a little tan added; but the plants must not be shifted at this period, only
only requiring to be replunged to the brims again in the beds for the winter. It is the common practice at this time to add a large quantity of new tan, in order to keep up a strong bottom heat through this season; than which Mr. Nicol thinks nothing can be more erroneous. He has already remarked, that the bottom and superficial heat ought to correspond at all times; and if the house is to be wrought at 60° only for the winter, it follows, he supposes, that a very moderate bottom heat is sufficient. The temperature of the house being so much reduced in winter, is, he concludes, to prevent the plants from starting too soon into fruit; and their doing so is frequently more in consequence of too much bottom heat, than irregularity in the temperature of the house. In the beginning of February, which is the best flowering season, the bark beds will require trenching, which is the only time of the year that the above author advises a deviation from the rules given above. From this time the house, in his opinion, should be wrought as high as 70°, and the bottom heat keep pace with the artificial, for which new tan, to the extent of a sixch part, should be added. Such of the plants, he observes, as, are not flown, are healthy at the root, and Fraud erect and firm in the pots, should have a little fresh mould laid on the surface of the soil; and the removal of about two inches of the old. But those that are already flown, and those that are anywise unhealthy, or appear flunted, should be shaken out entirely, and replanted with fresh mould in the same pots; but none of the pots, unless waited, should be cut away, or removed. This, so far as it refpects the plants that are flown, he presumes have not been hitherto recommended; he is accordingly happy in being enabled to do it with confidence, as it has ever been a matter to be regretted, that pines, from the want of sun and air in the winter months, are apt to be flunted, and flew their fruit too early, and that fruit so flown, seldom comes to any considerable size or flavour; the plants so flunted, being unable to nourish the fruit, and, from the want of sunshine in the early months, coming far short in flavour of that matured at a later period. It is added, that the experiment was tried on a dozen of plants, the half of which were in, and the other half past, the flower at this time of the year; the result was, that they were kept back a full month by the operation; those that were past the flower equalled, and those that were only in flower exceeded any of the others of their own forwardness at the time of shifting. Being encouraged by this success, he treated his whole stock of flowering plants in the same manner in the following seasons, and they were kept back to a better season, and swelled their fruit to as good a size as those that showed in February. Towards the beginning or middle of May, the bark beds should be again trenched to the bottom, a tenth part of new tan added, and the plants replunged in the beds in the same manner as in the preceding cafes, nothing further being necessary. Though it is not possible to apply the heat constantly with that degree of exactness that has been recommended, it is of great importance to approach it as near as can be conveniently done, which, by proper attention to the thermometers employed for the purpose, may in a great degree be accomplished, especially where the person who manages the fires, has likewise the command of the house, which should always be the case.

Several sorts of fuel are employed, but coal or cinders make the most regular and durable fires, where they can be obtained. Ground tan heat may also be employed where the fire-places are properly contructed for the purpose. See Hot-house.

With regard to the admition of air, the author of "The Scotch Forcing Gardener" recommends very large portions in the fruiting house whilst the fruit is ripening, as it is, he thinks, not only essential to the flavouring of it, but highly conducive to the ripening and hardening of the suckers, which is also a point of importance. Though it is the practice of some to shade their plants from the sun, the above author supposes they can never have too much of its influence. It is advised, that if a winter even fruit should be admitted at a moderate degree at the top of the house, and in fresh weather, at this season, to the extent, that the thermometer may not be more than 5° above the fire-heat medium, being continued till the middle of March; after which, and for the whole season, not more than 10°. It is observed that winter fires are frequently made in the morning, solely for the purpose of admitting air, and at the same time for raising up the temperature of the house, and that although the pine, from its nature, does not appear to quickly feel the effects of bad management, there are few plants in reality do it more so, and too due an attention to the temperature of the house, especially in winter, cannot be paid, the want of which is sure to throw the plants into fruit in an untimely season.

In respect to the application of water in the culture of these plants, it is advised to be given very sparingly in dull weather, particularly in the winter season, from the beginning of October to the first or middle of March, once in eight or ten days is generally sufficient, in a small proportion; but from that period plentiful waterings are requisite, in considerable quantities at a time, mostly once in three or four days. Watering much over head in winter, except in clear weather, is not advised; but in the summer months it is recommended, as a good practice, to first give the quantity requisite to the root from the spout of a watering pan, and then a sufficient quantity to wet every part of the leaves from the rote; the reason of which is, that the different kinds of pines are formed to require very different quantities of water: the queen requiring more than the king; the Antigua, or brown sugar loaf, and the Montferrat and green or filipot sugar loaf, a medium between the two, in plants of an equal state of health and size.

With the fruiting plants, very large quantities are required from the time they are out of flower, till they begin to colour; but which should then be gradually withheld, and towards its maturity totally, as this increaseth the flavour of the fruit, and perfects the ripening of the suckers.

Steaming is considered as not only useful to the health of the pine, but, in dull hazy weather, prejudicial; of course, when there are grapes in the hot-house, it should be regulated so as to suit them.

Water well impregnated with air should be used at all times, which should be applied about eight in the morning, and from four to five in the afternoon. In the watering of these plants, a tin pipe is recommended as useful and convenient, for the more ready conducting the water in the quantity intended to any particular plants of the bark beds. It should be six feet long, an inch and half in diameter at the upper end, and at the other about half an inch, and be formed of two or three separate pieces to lengthen or shorten at pleasure. At the longest end a kind of funnel should either be fixed, or fo contrived as to take off and on occasionally, to receive the water from the watering pot. By this means water is capable of being conveyed to the plants separately, in any proportion, to the hearts of them, without wetting the bark beds more than is necessary to maintain the earth in the pots, &c. It is particularly applicable in winter as well as in the spring, during the bloom of the fruiting plants. In winter it may sometimes be proper to have some conveniences in the hove to preserve water in, that
that it may be raised in its heat a little previous to watering the plants with it.

Some have attempted the culture of the pine-apple without the aid of hot-houses, or boxes constricted for the purpose, simply by common deep garden frames, and dung hot-beds, aided by occasional linings, in order to promote and keep up a regular degree of heat; but this is a very imperfect method, and seldom attended with much success.

The injuries to which these plants are chiefly exposed during their growth, are brown and white scaly insects, of the cocoon tribe, and the ant. But as the last is seldom seen, if the former be not present, Mr. Nicoll concludes that their presence is in consequence of that of the insects on which they feed to seem to be. And the brown scaly insect is conceived to be no further injurious, than by discolouring the plants; but the white scaled, or bug, is of the most injurious nature to the plants, as, where it abounds, they never succeed well. In order to remove them, Mr. Nicoll found the following method answer perfectly, in a case where the plants were greatly affected. Having prepared a strong heat for the plants in the dark bed of the nursery pits, he shook out and cut away all fibre from their roots, whereby they were rendered the same as if on the first, not excepting those that were in fruit, some of which were just in flower, dipped them into a liquor prepared by boiling two pounds of foil soap and flower of sulphur, with one pound of roll tobacco, and two ounces of nux vomica, in eight gallons of water to fix; put them into pots of six inches diameter, and plunged them to the brims; kept up a fire heat to about 75°, gave them but little air, shading them in fun-shine, and afterwards gave them plentiful waterings over head with the same mixture, reduced to about half its former strength. He continued this treatment for two whole months; at the end of which he again shook out their roots, and washed the whole plants in pure water, put them into fresh pots of eight inches diameter, and re-plunged them into a kindly heat in another nursery pit, treating them in all respects as any other plants. He never saw a vestige of the bug afterwards; a few of those plants that were shewn, however, died, but the others, he observed, produced such fruit as might be expected from plants of such sizes of any other kind.

Time of Maturation, and cutting of the Fruit. The common season for the ripening of this sort of fruit is from June till September; but from August to the end of the latter month is the principal period of their attaining to the greatest perfection. Mr. Nicol remarks, that some kinds put forth suckers at the base of the fruit, which should be rubbed off as they appear; others put forth suckers from the root; and as these are not proper to be taken into the flock, they should also be twisted off, or otherwise destroyed, as they appear. It is added, that if a plant were to be divested of all its suckers, the fruit would open to a much larger size in consequence; but as this was ultimately tend to the extirpation of the whole flock, it is by no means advisable. It is proper, however, to reduce the number of suckers on the plant to two or three at most, which should be done in the May planting; and as the suckers are about half grown at the time, the cultivator is enabled to choose the best, and at the same time to easily destroy the others, by breaking out their hearts. Where the increase of the flock is the object, all suckers, even at the root, should be encouraged in their growth. As some of the kinds also grow long footstalks, which are apt to bend down as the fruit gets heavy, they should be supported by small stakes, or other means, as when the fruit falls over the stalk, it is liable to be bruised, and the nourishment of the fruit retarded.

This sort of fruit loses much of its flavour, when suffered to grow till fully ripe; where not prevented, it should therefore always be cut by the time it has attained a greenish yellow colour, and either left in the heart of the old plants, or hid on the wall-plate, &c. in the flower for a few days, after it has been separated from the stem.

The sign of the fruit having attained perfection in most kinds, is that of affuming a fine golden colour, with a delightfully fragrant smell; at which time it should always be removed. The method of performing which, is by having several niches of the stems with it, and also the crown of leaves at the top. It is eaten in the highest perfection soon after being cut; but when required, it may be preferred for several weeks, by putting the fruit into a bottle of pure water, renewed every two or three days, and placed in a well-dried room of above 60° of heat.

The cultivation of the other species may be performed either by sowing the seeds obtained from abroad, in the autumn or spring months, in pots plunged in the hot-beds of the flowe, or by means of suckers, in the manner of the pine-apple plants. They must be kept constantly in the flowe, where they afford much variety, when properly managed, at all assemblage with other plants of the same sort.

BROMFIELD, William, in Biography, who, in a long course of practice, attained to the highest degree of reputation in his profession, was born in London, in the year 1712, and was initiated in the practice of surgery, under Mr., afterwards sergeant, Ranby. With such a precocious, and with a mind susceptible of information, he early found himself capable of practising on his own account. In the year 1741 he began to give lectures in anatomy and surgery, and soon found his theatre crowded with pupils. Two or three years after, in conjunction with the renowned Mr. Madan, he formed the plan of the London hospital, for the sole reception of that unfortunate class of patients, who are affected with the venereal disease. By a strong and forcible appeal to the humanity of the public, and by showing the advantages that ultimately might redound to them, from the improvements that might be expected to be made, in such an asylum, in the method of treating that frightful disease; a subscription was raised sufficient to enable the projectors of it to erect the present spacious and handsome building, but not for its maintenance, which is still effected by voluntary contributions. To this hospital Mr. Bromfield was made surgeon, an office he filled with advantage to the patients and credit to himself for many years. With a view of contributing to its success, he altered an old comedy, "The City Match," written in 1659, by Japser Maike, and procured it to be acted at Drury-lane theatre, in the year 1755, for the benefit of the hospital. He was also, very early after its being intituled, elected one of the surgeons to St. George's hospital. In the year 1761, he was appointed in the suit of the noble person, who were sent to bring over the princes of Mecklenburgh, our present queen, and was soon after appointed surgeon to her majesty's household. In the year 1751, he went to the Royal Society a lecture of a woman who had a factus in her abdomen nine years, which is printed in their transactions for the same year. In 1757, he published an account of the English night shades, the internal use of which had been recommended in ferephorous cases; but they had failed in producing the expected benefit with him. Under their use, the ulcers became worse; they occasioned thirst, dimness of sight, and, if not cautiously given, death. In 1759, he gave "A Narrative of a Physical Transaction with Mr. Aylet, Surgeon, at Windfor." This is a controversial piece, and the author clears himself from the imputation of having treated his antagonist improperly. In 1767, he published, "Thoughts concerning


BROMLEY, a township in the county of Kent, England. The town contains 4,744 houses, and 27,700 inhabitants. Wilmot's History of Bromley, 12mo.

BROMLEY, or ABBOTS-BROMLEY, a small market town of Staffordshire, in England. The adjunct abbots was given to it in consequence of its abbey, which is now entirely dissolved. This town contains one street, near the centre of which is the town hall, where the court-leet and court-baron of the earl of Ukberide are annually held. Bromley stands in a fine open fertile country, distant 19 miles N.W. from London, and 11 from the city of Lichfield. Here is a weekly market on Tuesdays, and three annual fairs. The town contains 2,223 houses, and 8,059 inhabitants.

Near Bromley is Blithfield, the seat of lord Bagot; and at two miles distance is Howacroft, the seat of the earl of Shrewsbury. The forest of Needwood, considered the greatest ornament of Staffordshire, is 3 miles from this place.

BROMPTON. Sec CHATHAM.

BROMSBRORO, a town of Sweden, in the province of Smaland, which has a large bridge over the river that here discharges itself into the sea. A small island lies in the middle of the river, on which two stones are erected for boundaries. This place is famous for a congress, held in 1541, and again in 1572, for settling some disputes concerning the arms of the three northern crowns; and also, for a treaty of peace, concluded in 1657, between Sweden and Denmark. It is 4 leagues from Christianopole.

BROMSGROVE, a town of Worcestershire, in England, is noted for its manufactures of worried, linen cloths, fish-hooks, needles, nails, &c. It had formerly a manufactory for broad and narrow cloths, but this is removed into Gloucestershire. In the reign of Edward I. Bromsgrove sent two members to parliament, and it has had many privileges conferred on it by different monarchs. Edward VI. founded a grammar school here, which was additionally endowed by sir Thomas Cooks. The church and town are large and handsome, and the former, from its high situation, is approached by a flight of fifty steps. It is ornamented with some painted glass, and contains several fine monuments. Among these is one for judge Lyttleton, 1600; bishop Hall, of Bristol, 1710; sir Humphrey Stafford, who was killed in Cade's rebellion; sir John Talbot, of Grafton; and another ascribed to a daughter of Henry VII. This parish contains twelve mansions, and its houses amounted, in 1821, to 1,158, and its inhabitants to 5,968, of which 12,28 were engaged in manufactures and trade. Bromsgrove is 115 miles N. W. from London, and 12 from the city of Worcester.

About one mile and a half distant is Grafton manor, the ancient seat of the earl of Shrewsbury. Hewell-Grange, the seat of the earl of Plymouth, is at 4 miles distance. Dodford priory is within two miles of Bromsgrove. Nash's History of Worcestershire.

BROMUS, in Botany. (Bromus, food.) Linn. 89. Reich. 95. Schreb. 120. Juss. 32. Wild. 140. La Mare, Illust. 119. pl. 46. Smith Flott. Brit. 38. Clas. triandria digynia. Nat. Ord. gramina, graltis.

Gen. Char. Cal. glume, many-flowered, two-valved, spreading, collecting the florets into an oblong two-rowed spikes; valves ovate-oblong, acuminate, awnless; the lower one smallest. Cor. two-valved; the outer valve the fice and form of the calyx, concave, obtuse, blunt, putting out a
Its glumes are closely imbricated, ovate, acute, rather timid. Panicles, from seven to ten, widely inrolled, ovate, smooth, and depressed. Calyx of two unequal glumes, scarious at their edges, keeled, villous, marked with seven or nine strong green ribs.

The genus Bromus is entirely artificial, and there are no natural boundaries between it and fescue that have been hitherto ascertained. It was originally assumed by Linnaeus, that a terminal straw awn should determine a plant to be a fescue; but in practice this distinction has not been broadly observed, and great confusion has accordingly arisen in the distribution of species. Dr. Smith’s new character will prove a happy one, if it shall be found to prevail in all the foreign species, which have the general habit of Bromus; but we fear it will sometimes fail. It is already sufficiently evident, that the position of the dorsal awn, and the fringe of the glume, cannot both be admitted into the essential character of the genus.

Sp. 1. B. secalinus, Linna. (Eng. Bot. pl. 1171. Knap. p. 79.) Polyalthus, Scorpius, Hudson, Withering. “Panicle spreading; peduncles nearly simple; spikelets ovate, compressed, ten-flowered, florets distinct, roundish.” Dr. Smith. Smooth rye brome-gras. Root, annual. Stem about three feet high, simple, round, smooth, and leafy. Leaves, broadish, flat, ribbed, rough at the edge and underneath, clothed above with short, soft hairs; sheaths furrowed but not rough. Spikelets, very short. Panicles, when young, erect, with lanceolate, cloved spikelets; when mature, pendant, with the spikelets so expanded that the rachis is visible between them. Calyxes unequal, awnless; glumes elliptic, smooth, three-nerved, membranaceous at the edges. Florets, roundish, smooth, rarely downy, ovate, flat; outer glume marked with seven short ribs, with a rough and rather short awn; inner glume toothed rather than fringed. Dr. Smith. Knap. Native of England, in Norfolk frequent. 2. B. multiflorus, Weigel. Gmelin. Wild. (Knap. Tab. 80.) Considered by Linnaeus, a variety of secalinus. “Panicle spreading; peduncles seldom with more than one spikelet; spikelets, ovate-lanceolate, compressed, five-flowered; florets subimbricate, roundish.” Dr. Smith. Root, annual. Stem, smooth. Lower leaves, naked beneath, a little hairy at the edges above. Upper leaves, pubescent, with a short wooliness beneath, hairy above; all rough at the edge; sheath smooth. Spikelets, very short, lacerated, scarcely hairy. Panicles, as in the former. Spikelets, ovate-lanceolate, rather compressed, imbricate, and finally rather remote. Glumes generally slightly pubescent, rarely smooth. Dr. Smith. 3. B. mollis, Linna. Said by La Marck, in Eyce, Meth. to be only a variety of secalinus, but the error is corrected in the Illust. (Curtis 8. Eng. Bot. 1878. Knap. 77.) “Panicle erect, clove, compound. Spikelets, ovate. Florets, imbricated, depressed, ribbed, downy.” Dr. Smith. Root, annual, of a few simple fibres. Stem, erect, about two feet high, simple, fringed, generally smooth; joints swelling, often thickly clothed with hairs. Leaves and their sheaths thickly covered with a soft hoary pubescence. Spikelets, bluntly joined. Panicles, two or three inches long, erect, at first clove, afterwards a little expanding; branches half-whorled, the upper simple, the lower more or less subdivided, angular, pubescent. Spikelets, nearly upright, ovate, acute, rather timid. Florets, from seven to ten, closely imbricated, elliptical, concave, and depressed. Calyx of two unequal glumes, scarious at their edges, keeled, villous, marked with seven or nine strong green ribs.

This compound dense panicle, and its strongly ribbed, depressed, closely imbricated glumes, at once distinguish it from the two former. The B. nana of Weigel is only a stunted dwarf variety. Dr. Smith. It is a common plant in meadows; and in some parts of the north of England, constitutes a principal part of their herbage, but chiefly in fields lately laid down, and owing perhaps to its being preferred on account of its own excellence, but to the largeness of its seeds, which are more easily gathered, and consequently more profitable to the collector. Mr. Knapp informs us, that in the southern part of Scotland it is cultivated by itself like ray-gras in England. 4. B. racemosus, Linna. Polyalthus, Hudson &c. (Eng. Bot. 1779. Knap. 78.) “Panicle, nearly erect, spreading, simple; spikelets ovate, of about six imbricated, depressed, ribbed, smooth florets.” Dr. Smith. It agrees in general habit with the preceding, but is more slender; its glumes are perfectly smooth and shining, and their ribs less prominent. 5. B. pectinatus, Willd. “Panicle, spreading; spikelets, ovate, smooth, inner valve of the corolla fringed, awnless.” Thunberg. A native of the Cape of Good Hope. 6. B. lanceolatus, Willd. “Panicle, erect, spreading; spikelets, lanceolate, smooth, a little compressed; awns, at the time of flowering, straight; at the ripening of the seed, bent.” Roth. Root, annual. A native of dry situations about the Cape, fea. 7. B. alopecurus, Willd. “Panicle, clove, erect; spikelets round, awns divaricated.” Vahl. Spikelets, nearly felide, spirally twisted at the bottom. 8. B. squarrosus, Linna. “Panicle nodding; peduncles fimbriate; spikelets ovate, twelve-flowered; florets imbricated, depressed; awns divaricated.” Dr. Smith. Root, annual. Stem, a foot high, fimbriate, smooth, fringed, leafy. Leaves and sheaths pubescent, with a very short deflexed down. Panicle with few flowers. Peduncles, fimbriate, compressed, thickening upwards. Spikelets, very large, ovate, swelling, polished, closely imbricated. Calyx unequal, nerved, awnless. Corol outer glume but little larger than the calyx, many-nerved, bipartite at the summit; awns awn-like, rugged, the length of the glumes; inner glume much less ciliated with a few fainter bristles. Stem, elliptic, adhering to the corolla, villous at the summit. Native of France, Germany, Siberia, &c. Its claim to be admitted into the British Flora rests entirely on the authority of Hudson, who probably mistook for it some variety of B. secalinus. 9. B. japonicus, Willd. “Panicle, spreading, branched; spikelets oblong, smooth; awns divaricated.” Thunb. Root, annual. A native of Japan. 10. B. yedonis, Willd. “Panicle, erect, branched; spikelets ovate, with about three flowers; glumes bifid, falcate; awns divaricated.” Thunb. Spikelets, small, smooth. Glume, terminated by two awl-shaped points of nearly its own length. Awns jointed, reflexed. 11. B. purpureus, Linna. “Panicle nodding, curved; leaves naked on both sides; sheaths hairy; glumes villous.” Root, annual. Stem, a foot and half high. Flagg, the breadth of a reed, keeled, green. Sheaths with revolting hairs. Spikelets, from eight to fourteen, flowered, oblong. Gathered in Canada by Kalm. 12. B. catharticus, Willd. “Panicle, spreading, erect, nearly simple; spikelets, broadly lanceolate, fringed, rough; awns short, flat.” Vahl. Root, annual, leafy. Sheaths naked.
Spikes, broader than those of the preceding, acute. A native of Chile, whose inhabitants use a decoction of its root as a purgative. 13. B. cozensi, La Markii, Ill. "Panicle erect; spikes, ovate, smooth; glumes furnished with broad membranaceous auricles." Native of Mont-Vidiis. Commerson 14. B. merina, Reich. "Panicle erect; spikes, roundish,awl-shaped, naked, nearly awnless." Pollich. Root, perennial, extremely creeping. Stem, a foot and half high, flatirated, smooth. Leaves broad, acuminate, smooth, dark green; midrib whitish, rough. Panicle, at first close and upright, afterwards widely spreading, and nodding a little at the top. Pedicels several together, lower ones very long, upper ones very short, often quite simple. Spikelets containing from seven to ten florets. Glumes of the calyx unequal, lanceolate, concave, blunt, smooth, greenish, with broad, silvery, thin, membranaceous edges; larger glume with one green nerve, smaller with three. Glumes of the corolla unequal; larger with seven green raftered spikes, awn short, frequently wanting; smaller, flat, membranaceous, narrower, the edges rolled back, and surrounded by two green raftered spikes. Martyn quoted from Krocker Flora Sibica. La Mark in his Illus. has directed the description in Encyc. Meth. to be expanded. Native of Germany and Switzer- land. 15. B. after, Linn. Sup. ramosus, Syl. Veg. Ed. 15; but not Mantilla; meridiana, Hadison; bisatifis, Curtis; dormenta, La Mark. (Curts f. 2 Pl. 8. Eng. Bot. 1712. Knap. 8.) "Panicle drooping, branching; florets lanceolate, almost cylindrical, but finely raftered; leaves uniform, lower ones hairy." Dr. Smith. Root annual or biennial. Stem often six feet high, erect; smooth in the upper part. Leaves spreading, broad, of a full green, raftered, rough, clothed with long spreading hairs, all nearly of equal breadth; spikes smooth, with deflexed hairs. Spikelets linear-oblong, pendulous, often brownish, a little downy, Calyx-glumes very unequal. Flores about nine, raftered on the keel; awn rough, flatter than the glumes; inner glume closely flinged; its membranaceous edges bent in. Antheres suffron-coloured. Moil woods and hedges in England, Germany, Switzerland. 16. B. cebalis, Hadison, Ed. 1. pustulifera, La Mark. (Eng. Bot. 471. Knap. 86.) "Panicle, erect, a little branched; florets lanceolate, roundish, radical leaves narrow, ciliate, with white scattered hairs." Dr. Smith. Root perennial. Flatt, downy. Stem about three feet high, erect, floff and hair, smooth, rarely pubescent. Leaves linear-lanceolate, flattened, rough. S. smooth, hairy. Panicle nearly simple. Spikelets linear-oblong, compressed, erect, often of a purple hue, either smooth or downy. Calyx-glumes lanceolate, acute, keeled; the inner one larger, three-nerved. Flores from five to nine, unbranched, lanceolate, a little compressed; somewhat angular, keeled, finely raftered, rough at the keel; awns about the length of the keel, barely ciliate, hair, rough; inner glume rather downy than peltitcd. Approaching to Cellula, in which genus Dr. Smith would have been inclined to place it, if it had not to clone an affinity with B. after, an indubitable brooms. Sandy or chalky soil in England and France. 17. B. littorea, Wild. "Panicle nearly erect, rough; spikelets oblong, from four to five-flowered, smooth, nearly awnless." Reiz. Native of Sweden, Pomerania, Switzerland. 18. B. citrata, Linn. "Panicle drooping; leaves slightly hairy on both sides, as also the theae; glumes ciliated." Root perennial. Stem slender. Spikelets oblong, compressed, eight-flowered. Calyx-glumes naked. Corol-glumes lanceolate, very hairy at their edges, but not on the back. Native of Canada. 19. B. floritii, Linn. (Curts Faf. 1. Pl. 9. Eng. Bot. 1030. Knap. 84.) "Panicle droop-
ovate-lanceolate, smooth, drooping. Calyx-glumes unequal, acuminate, smooth, keeled; the inner one broad, or with three ribs. Outer glume of the corolla smooth, ovate-lanceolate, scarcely keeled, with five ribs at the summit; awn terminal, two or three times longer than the floret, ciliolate; white, sometimes a little bent; inner glume the length and nearly the breadth of the other, its edge rough, but not ciliolate. Dr. Smith, who on that account places it under the genus feltsca. Mr. Knapp says the inner valve of the corolla is minutely fringed, and in his figure, the awn is decidedly dorsal, but neither of these particulars is confirmed by our specimens gathered in Yorkshire. We have, nevertheless, continued it among the bromi, induced, rather by the general habit of the plant, than by any other consideration. A native of woods and moist hedges in the temperate parts of Europe. 24. B. rubens, Linn. "Panicle falciculately, spikelets nearly sessile, villous, awn recht." The flo- paturius of Linnaeus is suspected by La Mare, and determined by Cavanilles, to be only a variety. Root annual. Stem from seven to ten inches high, a little bent at its lower knots. Leaves smooth, short, and ciliolate. Spikelets sometimes smooth, sometimes green, often blood-red, but generally paler; awns sometimes upright, sometimes divaricated on the same plant. Native of Spain. 25. B. rigens, Linn. Mant. "Panicle spike; spikelets nearly sessile, erect, downy, with about four florets." Stems six or seven inches high, leafy. Leaves ribbed, slightly hairy on the upper surface; sheaths covering the whole culm. Spikelets scattered, tenacious. Awns nearly erect, the length of the spikelet. A native of Portugal, Vandcl. 26. B. triflorus, Linn. "Panicle spreding, with about three flowers." Stem near two feet high. Leaves with short hairs. Panicile six or seven inches long. Spikelets oblong, pointed. La Marck. Native of Germany and Denmark. 27. B. dianthus, Curtis; ma- drifenst, Linnaeus; murialis, Hudson, 2d ed. citatus, 1st Ed. dilatatus, La Mare; (Curtis Flor. Lond. Fafe. 1. Pl. 9. Eng. Bot. 1006. Knap. 83.) "Panicle upright, spreading, scarcely subdivided; florets lanceolate, ribbed, furrowed with only two lamens." Dr. Smith. Root annual. Stems a foot and half high, erect, stiff, slender, ciliolate, smooth. Leaves often entirely smooth; sheaths ribbed, a little keeled, generally smooth, but sometimes with hairs pointing downward. Spike short. Panicle scarcely three inches long, erect. Spikelets linear-lanceolate, erect, rough, often brownish. Florets diandrous, slightly ribbed, the two principal ribs fanding peculiarly close to each other. Found by Dr. Withering in Portugal, and by Dr Joseph Banks at the foot of St. Vincent's rock near Bristol. It is probably the same plant with the B. rigidos of Willdenow, who does not appear to have known that the madritiflos of Linnaeus is diandrous. 28. B. filipoides, Linn. Mant.; incrassatae, La Marck. Encyc. Method. "Panicle erect, ovate-pyramidal, spikelets smooth, about four-flowered, pedicels flattened, and enlarged above." La Marck. Root annual. Stem six or seven inches high, slender. Leaves narrow, smooth. Panicle upright, rather close, oblong, Spikelets smooth, greenish, or tinged with purple violet. Florets three or four, each supported by a pedicell, broader and flat towards the top. Awns faint and perfectly terminal. A native of Italy and Spain; described by La Marck from a living plant. 29. B. romanus, Linn. "Stem much branched; spikelets sessile; leaves involute-fubulate." Root perennial, creeping, hard, jointed, producing at different intervals tufts of leaves and stems. Stems a foot and half high, slender, smooth, leafy; throwing out toward the bottom short, alternate, generally barren branches. Leaves short, glaucous, rolled up. Spikeets from three to five, from eight to ten-flowered; awns short, terminal, resembling those of B. pinnatus. La Marck. On the shores of the Levant and Portugal. 30. B. pinnatus, Linn. "Spike simple, erect, two-rowed; spikelets sessile, roundish; awns shorter than the glume: leaves almost naked." Dr. Smith. Root perennial, a little creeping. Stem a foot and a half, or two feet high, erect, fimbred, round, leafy, very smooth, straight, and rigid, scarcely tapering. Leaves somewhat erect, lanceolate, acuminate, rather rigid, ciliated, nerved, rough, often naked, rarely hairy on the upper surface. Sheaths smooth and polished, (Dr. Smith,) generally hairy (La Mare and Knapp, with whom our own specimens agree.) Spikelet short, obtuse, ciliated. Spikelets from six to ten, downy, often curved. Calyx-glumes rather elliptical, somewhat awred, many-nerved. Florets twelve or more, closely imbricated, nerved, and hairy, chiefly towards the summit; awn terminal, shorter than the glume, sometimes very short, rough; inner glume elated with great brillles. Native of a dry calcareous soil in many parts of Europe. In England, not uncommon in Yorkshire, Ox- fordshire, and Kent. 31. B. sylvaticus, Pollich; gracilla, Weigel and Wildenow. "Spike simple, drooping, leaving one way; spikelets sessile, roundish; awn longer than the glume; leaves hairy." Root fibrous, tufted, perennial. Stems two feet high, round, leafy, tapering, very slender, and a little drooping in the upper part. Leaves spreading, flat, pointed, a little rigid, rough, ribbed, more or less hairy, bright green. Spikelets stragiit, close, hairy. Spikelet short, blunt, torn. Spike simple, drooping, zig-zag. Spikelets six or seven, alternate, sessile, cylindrical, linear-lanceolate, generally downy. Glumes of the calyx unequal, with short awns. Florets from six to nine, imbricated, in the upper part strongly ribbed and rough; awn terminal, rough, generally much longer than the glume; inner glume fringed like the preceding; superseded by some to be only a variety of B. pinnata; but they cannot be con- founded by any one who is acquainted with their native habits and places of growth. Frequent in copses and thickets, especially in a gravelly soil. 32. B. crisalus, Linn. "Spikelets imbricated in two rows, sessile, depreplexed." Root perennial. Stem about half a foot high, downy, leafy, lower sheaths villous. Spikelets about two, downy, four-flowered. Awn terminal. La Marck. A native of Siberia and Tartary. 33. B. dajlachys, Linn.; platylachys, La Marck. Illuit. "Spikelets three or four, erect, compressed, rigid, fesile; glumes ciliolate." Root annual. Stem from six to ten inches high, leafy, a little bent at the knots. Leaves rather short, soft, and ciliolate at their edges. Spikelets large, alternate, from two to five. Florets eight or nine. Awns long, straight, terminal; the external glume ciliolate. La Marck. A native of the southern provinces of France. The last six species have the terminal awn of fescue. Hudson and Knapp have accordingly referred the pinnatus and sylvaticus to that genus, in their arrangement of Brititish grasses; but Dr. Smith, partly on account of their general habit, but chiefly of their ciliated interior coroll glumes, has continued them among the bromi. The last five have the inflorescence of triticum.
The French name, goître, or goütrée, is evidently a corruption of the Latin word guttura, the throat; and although M. Louis has maintained, that the bronchocele and the goître ought not to be mistaken for each other; these two names are now fo universally applied to a similar affection, that it would be vain to attempt any correction of the appended error. Vide Encyclopædia, Art. Goître, composed by M. Louis. In another place he says again, "Il ne faut pas confondre, comme on fait affez communément, la bronchocele avec une autre tumeur du cou qu'on nomme goître." Art. Bronchocele, ibid. He would confine the term bronchocele to an hernia of the wind-pipe, which, in his opinion, may be cured by compressing the tumour with a suitable bandage and cushion.

Upon the disorder which constitutes the subject of the present article, we know not any author who has written so amply and experimentally as M. Foderé, who had many opportunities of observing the bronchocele in all its stages, where it prevailed as an endemic disease.

This affection more frequently attacks females than males, children than adults, and relaxed or delicate constitutions than those which are rigid and vigorous; but it will sometimes affect persons of apparently good constitutions, and of either sex, on their going to reside in the low valleys beneath the Alps, the Pyrenées, the Apennines, &c., where it is endemical and hereditary. Scrofula and rickets seem to make the greatest ravages among people who are liable to bronchocele; but M. Foderé is positive that the latter disease, nevertheless, differs materially from the former; and that the goître is purely a local complaint of the neck, unattended with the least danger, except it occasion violent mechanical pressure by the enormous bulk of the swelling. Vide chap. v. § 19. to 24. Traité du Goître et du Crétinisme.

The remote physical causes which have been assigned for this disease, are various and unsatisfactory; viz. the drinking of hard, cold, or snow-water; the use of alimentary substances not sufficiently nutritious; the repulsion of some cutaneous disorder; the abuse of vinous or spirituous liquors, &c. Theories, which have been founded on any of these supposed causes, are too hypothetical, and are contradicted by numerous facts; besides which, the bronchocele will be found to prevail where none of these causes exist in a striking degree, as several writers have sufficiently proved. The disease, however, is known to predominate most in countries affected by great humidity of the atmosphere, joined with excessive heat; it augments in the spring-time, and diminishes in the autumn; it is less prevalent in a cold and dry winter, than during a season of dampness and moderate warmth; it is even said to be influenced in its progress, wherever it is endemical, in exact proportion to the degree of moisture indicated by the hygrometer. These facts are established by the observation of M. Foderé and Villars, after numerous and varied experiments.

We cannot, moreover, acquiesce in the explanation which has been offered respecting the proximate cause of this disease, or the phenomena of which it consists. The thyroid gland, some writers tell us, contains a viscid humour, which continually lubricates the larynx and trachea by its exudation, and it is the flagellation or detention of this humour in the capillaries of the gland, lay they, which forms the disorder in question! But, we ask, have the uses of the thyroid gland been ascertained? Has its minute structure been developed? Have there been any mucous ducts or outlets detected? Is it really a secreting organ? Further, we are told, that the humid air is imbibed by the cellular texture of this gland; that it thereby becomes expanded, or tumesced; that its secretory

Who has not heard of the swelled throat of the Alps?
ectory ducts are thus obstructed; and that bronchocle con- 
fits altogether in this laxity or atonic state of the organ.
But, surely, all this is hypothetical; for, even supposing the 
imhibition of moit air to take place (which, however, re- 
 mains to be proved), would it not be received into the ab- 
sorbent vessels, and transmitted to the thoracic duct? And, 
why should it be imagined, that the thyroid gland imbibes 
the moit atmospheric air, more than other parts of the body 
which are equally exposed? 
Upon the whole, we see no reason for adopting the above 
result, however respectably it has been supported; and we 
do not feel competent to offer any explanation of the 
proximate cause of this disease. Perhaps some light will 
be thrown on the inquiry, when we are better informed as 
to the economy and natural use of the thyroid gland; but, 
for the present, we are without doubt, or analogous 
sufficiency, to afford a legitimate conclusion. We proceed, therefore, 
to the means which have been employed for the prevention 
and cure of this complaint; a subject on which much has 
been said and written, although not to the entire satisfaction 
of practitioners or patients in general.

As to preventive measures, they must chiefly consist of such 
as tend to moderate the heat and air of those places wherein 
the bronchocle is endemic. It be a fact, that marby lands, 
an humid atmosphere, deep and woody vales, sur- 
rounded by lofty hills, which intercept thefulous breezes, 
are among the physical causes of this disease; the prevention 
must partly depend upon the removal or avoidance of such 
causes; and this should be especially attended to by persons 
who are naturally of a delicate or soft fibre, and are there- 
fore predisposed to debilitating complaints.

The curative means are either medical or surgical. The 
internal remedies, which have acquired the greatest reputa- 
tion, are burnt sponge, soap, sulphurated kali, prepared 
patron, and artificial soda-water. It has been advised to 
exhibit a dose of calomel and neutral salts once a week, 
during the use of the other medicines; likewise to keep the 
neck warm; to refide in a dry, pure atmosphere; and to 
swallow the above-named remedies very slowly, which is 
particularly injudicious if the patient take these medicines in a 
fluid form. Authors have also alleged, that benefit is some- 
times derived from the external application of mercurial oint- 
ment, blistering plaster, sop liniment, camphorated oil, dry 
frictions, moderate compression, and electrical sparks. But 
of all these means, the burnt sponge, made into lozenges, 
has received the highest encomiums. For our own part, we 
have been disappointed in our expectations from these lo- 
zenges; although many practitioners consider them as almost 
infallible, if properly administered and persevered in. The 
following is the formula recommended by Mr. Ring:

Take of Burnt sponge, two ounces; 
Powdered gum Arabic, two drams; 
Powdered cinnamon, half a dram; 
Simple syrup, enough to form the whole into 
a mass, which is to be divided into forty-eight portions. 
Care must be taken that no more syrup be used, than is abso- 
lutely necessary to make the dry ingredients properly cohere; 
for which reason, it must be added slowly, and the mass must 
be well beaten. The lozenges are to be dried before a fire, 
on a plate which has been slightly oiled, to prevent them from 
flaking; and they must be kept in a bottle or gallipot, 
tied over with a bladder.

One of these tablets is to be exhibited three times a day, 
for a considerable time. Some practitioners, indeed, have 
given so much as fix or eight drams of the burnt sponge 
daily, without any inconvenience; and, too often, without 
any benefit to their patients. It would be defraying the at-
tention of surgeons, to ascertain, if possible, the cause of 
this diversity in their successes; and whether the nature of the 
affection, in the cases said to have been cured by the use of the 
sponge, does not essentially differ from those in which this 
remedy has been taken largely to no good purpose.

Dr. Herrenfeld, of Peru, thinking that the burnt 
sponge has a tendency to injure the flammach, and produce 
a leucorrhoea, advises that it should not be calcined, but em- 
ployed in decoction; and this, he says, is equally efficacious. 
Whereas, Mr. Poucré prefers it to be only half-burnt, and 
mixed with honey and camilla alba; of which the bulk of a 
large nut is to be taken three times a day, for several weeks.

This last author tells us, he has seen an extremely large 
swelling of the neck dispersed by the daily use of thirty 
grains of the sulphate of potash, dissolved in a pint of water; 
and he considers the cure as more easily effected, by requiring 
the patient to take a cathartic every week, during the whole 
time of the medicinal course; by keeping the neck very 
warmedly covered; by swallowing the burnt sponge, &c. inten- 
sibly, or holding it a considerable while in the mouth; by 
beginning the remedy at the decline of the moon; and by 
changing the air to a dry or open situation, which, indeed, he 
regards as indispensably necessary.

The success will also much depend on the patient's being 
young, and otherwise healthy; but if the swelling be of a 
febrile or indurated nature, there is very little hope of 
relief, except by a manual operation, such as Cornelius Cel- 
tius long ago recommended. However, the extirpation of 
the tumour can hardly be undertaken, unless it be detached, 
certified, and heated at the fore-part of the neck.

The swelling being situated in the vicinity of so many im-
portant organs, will deter a surgeon from hastily proposing 
its cure or excision; besides, there are cases related, in which 
the mere opening of the cyst has affected a cure; and, in 
these cases, the contents were either evacuated at once, or 
gradually lefioned by suppuration. When there is an evident 
fluctuation of matter, a fenton drawn through the tumour 
might perhaps be advantageous; or, as Celsus and others 
have suggested, the application of a caufical might be par- 
tially useful; but, if the life of a patient be not endangered 
by this disease, it would be prudent to avoid such irritating 
means. Although the ulcer which remains after the use of a 
caulic will sometimes be exceedingly deterring and dif- 
cult to heal, we are not of opinion, with Mr. Benjamin Bul- 
ly, that it ever "degenerates into a cancer."

We ought not to conclude this article without alluding 
to a celebrated remedy, prepared and sold at Coventry, for 
the cure of bronchocle. It is generally supposed to be 
lefs efficacious than burnt sponge alone, and to consist of 
equal parts of sponge, cork, and pumice stone, calcined; 
which is formed into a bolus, with sugar or syrup, to be laid 
under the tongue every night. Mr. Procter, who published 
an account of the bronchocle and its treatment in 1711, 
recommends the following powders, in preference to the 
Coventry medicine:

R. Cinnab. Antimon. opt. levig. ʒj. 
Milleped. pp. & pulv.
Spong. calcin. ąą gr. xv. m. f. pulvis.

One of these is to be taken an hour or two before break-
fast, for two or three weeks; and after the interval of about 
a fortnight, they are to be again renewed; and three of the 
following pills are to be taken at bed-time, during the second 
course of the powders:

R. Pil. Mercurial. ph. nov. ʒ ʃ.
F. Pil. N° 48. æquales.

The dose is to be adjusted to the age and constitution 
of the patient, who should be prepared for this course by two
or three previous purges, and avoid taking cold. If these means be used for about a month or six weeks, without any external application, Mr. Procter has no doubt of success. However, the patient should be under twenty-five years of age. At this age the cure is uncertain; but at a more advanced period of life it is much more improbable, and seldom or ever succeeds. Mr. Goosche, in his "Medical Observations," mentions an example: Bronchocele; and so does Mr. Davies in the Med. and Phyf. Journal, No. 7, Jan. 1803.

BRONCHITIS, Peter, a painter of perspective and history, was born in 1758 at Delft, where he learned the art of painting. His subjects were views of ancient and modern churches, which he executed with great success. In the council chamber at Delft are his "Judgment of Solomon," and "Christ driving the money-changers out of the temple," described as performances in which the architecture is elegant, and the figures carefully finished. He died in 1762. Pilkington.

BRONCHOPHANT, John Van, a painter of history and landscape, was born at Utrecht in 1661; and as he discovered an extraordinary genius before he was 11 years of age, he was placed under the direction of John Verburg. He was afterwards for some time assistant to Peter Mattys, a painter on glass, at Brabant. After his return to his own country, he entered the school of Cornelius Poelenburg, and being charmed with his taste of design, pencilling, and colour, imitated his style with great success. Till his 36th year he painted on glass; but after that time in oil, after the manner of Poelenburg, and obtained a lauding reputation. In the choir of the new church at Amsterdam, there are three of his paintings on glass, which are exhibited as curiosities; and in the same church, on the folding doors of the organ, are three historical paintings in oil, "the triumph of David over Goliath;" "the anointing of Saul;" and "the attempt of Saul to kill David while he was playing on the harp," which are excellent performances. He also amused himself with the point, and some landscapes from Poelenburg, and other subjects from his own composition, are attributed to him. Pilkington and Strutt.

BRONCHORST, Peter, was born at Leyden in 1648, and, from an obscure original, arrived, by the power of his own genius and ineflent application, without any mallet, at distinguishing excellence as a painter in water-colours. His subjects were birds and animals of all kinds, which he copied after nature with uncommon life, exactness, and expression. He died in 1723. Pilkington.

BRONCHORST, or BRONCHOTUS, in Geography, a town of the United Dutch States, in the county of Zutphen; 5 miles N. of Doeburgh.

BRONCHOTOMY, in Surgery, is the operation of cutting into the trachea or wind-pipe; from βρόντος and τομή. It has been also named Laryngotomy, and Tracheotomy; although there can be no reason whatever for employing the latter term in preference to the usual appellation. Mr. Benjamin Bell, however, has said, that as bronchotomy "confists in an opening made into the trachea, and not into the bronchus, it ought more properly to be named trachotomie;" but to such hypercritisins, we can only reply, in the language of M. Petit-Radet: "Quelsques nomenclateurs, peu instruits dans la langue Grece, et ignorant que les anciens denoignoient le tracheé fou le nom de βρόντος, qu'ils ont confondu avec βρόντος, qui font les an- neaux des subdivisions de ce canal, ont mieux aime désigner cette operation sous le nom de trachétomie ou laryngotomie; mais ces dénominations n'ont pu généralement prevaloir." Encyloc. Méthod. Art. Bronchotomie.

The operation of bronchotomy may be practiced, with greater or less probability of success, in cases where a patient is in danger of suffocation, from an obstacle in the trachea, or a concretion of the glottis. There may be likewise a necessity for our resorting to this operation, where the trachea is compressed by a tumour externally, or where the tonsils and parts adjacent become so enlarged as to impede respiration considerably. In short, should any mechanical cause be supposed to exist, of threatening suffocation and impending death, the surgeon's duty will be too plain and imperious to admit of hesitation: an incision must be made into the trachea without a moment's delay, unless some other obvious remedy can be suggested for the patient's relief. The cases to which we here allude are so various, that they cannot be all enumerated; but no well instructed practitioner will suffer any person to lose his life, for want of an operation so easily performed, so little attended with bad consequences in itself, and so certainly efficacious in a multitude of examples which frequently occur.

Perhaps few, if any, chirurgical means can be proposed for the relief of a patient in extreme danger, so revolving to mankind, as this of bronchotomy. A general and long established prejudice prevails against it, arising from an erroneous opinion, that "wounds of the wind-pipe are always mortal." Although this opinion is refuted by almost daily observation, and numbers of people have recovered after cutting their own throats (i. e. dividing their trachea) in the most horrid manner; yet still, the popular notion exists, and must be encountered. It is therefore advisable, prior to the performance of this operation, that all the reasons which influence the surgeon's decision, should be stated fairly, and the probable or certain consequences of a different procedure be judiciously represented to the patient or the bystanders, to prevent any groundless blame in the event of ill success.

As the cause of interrupted respiration may be different, on different occasions, so must there be a variety in the manner of performing this operation, according to the existing circumstances: in some cases, a simple incision into the wind-pipe, about half an inch below the cryoidal cartilage, will effect the relief we wish for; but, in other cases, the wound must either be kept open by a canula; or a portion of one or two of the cartilaginous rings must be cut out, in order that the patient may continue to breathe with facility through the artificial orifice. Sometimes, again, it may be requisite to make a second opening, with a view to assist us in the extraction of a foreign substance; and when that object shall have been attained, probably there will be no further necessity for an artificial air-hole remaining open in the trachea, so that the external as well as the internal wound may be healed with all convenient speed.

When it is required that the patient should breathe for some time through the wound, we would think, be generally preferable to cut out a portion of the cartilage, (which has been often done with safety), rather than to haraafs the patient by keeping a metallic canula in the wound, between the divided cartilages. An incessant coughing and sputa of unexpelable nature will be likely to ensue from the presence of a canula, which might, therefore, be a source of greater mischief than could possibly arise from the removal of a small piece of cartilage. Every person knows what distressing consequences immediately follow on the admission of only a crumb of bread into the glottis: and how aggravated must the sufferings of a man be, who has a silver tube remaining in his larynx or trachea for several days, especially if it happen to touch the opposite paries! Should an extraneous body be lodged in the trachea, it is not always capable of being removed without making an incision across three or four of the cartilaginous
laginous rings, (i.e. in the direction of the wind-pipe itself), exactly opposite, or a little below the foreign substance.

Several kinds of instruments have been proposed for executing this simple operation; such as concealed lancets, trocars and canulae, guarded scalpels, &c. But, we cannot conceive what hazard or difficulty should occur to a surgeon who is at all used to handle a common dissecting knife, in making a longitudinal incision through the fore-part of the neck and trachea. We are very much inclined to simplify all surgical operations and instruments; rather than to make a parade, which sometimes tends to magnify real difficulties, or to create imaginary ones in the eyes of a young practitioner. Besides, the operation of which we are now treating is among the number of those which usually call for prompt and definitive measures; wherein the surgeon has no opportunity, (except in large cities), to search for curious instruments, and, therefore, should feel confident, that his business may be well performed without them. The apparatus essentially necessary, on this and many other important occasions, will, doubtless, be in the possession of every surgeon, or may be easily obtained when called for.

The following has been recommended as one of the best modes of performing the operation of Bronchotomy:

The patient is placed upon a low floor, or in that posture in which he finds it most easy to breathe; his head is held upright, but by no means bent backwards, and secured by an assistant. Opposite the third or fourth cartilaginous ring of the trachea, the skin is now drawn up into a high crois fold; and it is cut through exactly at the middle of the trachea, to such a depth, that when the fold is let go, the incision extends itself longitudinally from the first cartilagenous ring down to near the upper extremity of the sternum. By making the incision of a proper length, the operation will be greatly facilitated, as its edges can then be drawn farther from each other.

As soon as the hemorrhage has been entirely stopped, that part of the trachea, where the incision is finally to be made, must be laid bare, by dissecting away the cellular substance and mucular fibres situated about the membranous interface between the third and fourth ring, and by either entirely removing them or preserving them sideward. The operator then places the nail of the fore-finger of his left hand upon this interface; and applying the thumb and middle finger of the same hand to both sides of the trachea, he presses the point of his instrument, which must previously be dipped in some fresh oil of almonds, along the nail of his fore-finger, through the above mentioned membranous interface, between the third and fourth cartilaginous ring, into the trachea. He then applies the fore-finger of his left hand to one or the other of the cartilaginous rings, close to the tube or canula, in order to hold it back whilst he withdraws the blade of his instrument. If we make use of Richter's curved instrument, we must move the hand upwards in pushing it in, in order that we may turn the point of the instrument downwards, and prevent its touching the back part of the trachea.

But in order that we may prevent the tube from flipping out of the wound, and also to prevent its moving to and fro in the trachea, several foils are introduced above and below into the wound, so as to keep the lips abaf. To the rings, on both sides of the external opening of the tube, two narrow slips of linen are applied, which prevents the rings down upon the trachea; and the whole is covered and secured with adhesive plaster. And that none of the fluids which are collected in the wound may make their way into the canula and wind-pipe, the patient must lie or sit inclined on one side, and the wound must, from time to time, be wiped dry with a sponge. When the tube fills with mucus, it must be cleared with a small feather; or two such tubes may be employed, one enclosing the other, and either of them removed, when necessary, for the purpose of clearing it of mucus.

As an improvement upon the instruments hitherto employed, Mr. Benjamin Bell proposes one which has nearly the form of a flat straight trocar, and ought never to be less than two inches in length. Before it is passed between the two cartilages, it must first be thrust through several linen or camphor, which not only serve to cover the pledget of ointment intended to protect the wound, but also produces the advantage that (by removing one or more of the compresses, which may be done by cutting them open at the sides with a pair of forceps,) we are able to increase the length of the tube at pleasure. In order to secure the tube in the situation where it is left after the operation, he passes it through an opening in a plate of polished steel, which is curved so as to fit to the shape of the fore-part of the neck, and fastened behind with fraps and a buckle. To prevent any foreign substance from getting through the orifice of the canula into the trachea, it may be covered with a piece of fine gauze, which should previously be wetted, that the dust may not penetrate through it, but stick to the outside.

When the caue which gave rise to the operation has been removed, and the patient can again breathe through his mouth, the tube is withdrawn, and the orifice healed up like any other wound of the wind-pipe; in doing which great caution should be used, lest any thing should get into the trachea, which might produce dangerous consequences.

Mefira. Chopart and Default propose, that the incision into the trachea should be made between the thyroid and cricoid cartilages, and through the ligamentum crico-thyroidenum; which, however, we cannot recommend, on account of the far greater sensibility and irritability of the larynx, whereby the most violent symptoms, threatening immediate asphyxiation, might be excited.

When this operation becomes necessary, on account of any foreign substance lodging in the trachea, it may be performed in the following manner. The intagments are first divided as above described; and a longitudinal incision is made at the anterior part of the trachea, from above, downwards, through three or more of the cartilaginous rings. An assistant then draws aside the sides of the wounded trachea with a blunt hook, upon which the operator introduces a crooked forceps, with which, he carefully seeks for, and extracts the foreign body.

In this case, it is also indispensably necessary, that the hemorrhage from the external wound should be entirely stopped before any incision is made into the trachea, as otherwise a very violent cough would be excited.

If an extraneous substance should stick in the larynx, it might perhaps be dangerous, (as some have advised,) to cut the thyroid cartilage longitudinally, since this operation would excite very violent coughing; and might likewise be superfluous, if it were possible to lay hold of the foreign substance with a crooked forceps, introduced through an incision made at the usual place, below the cricoid cartilage.

BRONCHUS, in Anatomy, properly denotes the lower part of the alpera arteria, dividing into bronchi, or branches. In which sense bronchus stands contradistinguished from larynx.

The name bronchus is also extended to the whole alpera arteria, or trachea.

BRONCHUS also denotes a percif afflicated with a bronchodele, or tumour of the throat, called by Ulpin guitturoso.
BRONCOLI, Thomas, in Biography, a Neapolitan physician, who published in 1622, 4to. "De populari horribi et praelentii Gutturis et neuerarum Partium Alctione, Neapolit. et totem fere Regnum vexante, Condilium." This is an early account of the *scarlatina anginosa*, which seems not to have made its appearance in this country until about the middle of the last century, when Dr. John Fothergill published an accurate account of the disease, with the method he had found most successful in treating it. He is very earnest in advising the brethren to be careful in distinguishing it from the common quinia, as it requires a mode of treatment very opposite to that of diphteria. The *scarlatina anginosa* has of late years become one of the most frequent, as well as most infectious and dangerous epidemics that visit this country.

BRONE, in Geography, a river of Switzerland in the Valais, which joins the Rhone near Sion.

BRONGUS, in Ancient Geography, a river of Media, which, according to Herodotus, discharged itself into the littor.

BRONI, or BRONNO, in Geography, a town of Italy in the Milanese, where the French were defeated by the Imperialists in 1703; 10 miles S.W. of Pavia. N. lat. 41° 50'. E. long. 10° 6'.

BRONTAZA, a village of Russia, seated on the Mafa, within 20 miles of the Novgorod. In this village an excellent caviare is prepared of the roe extracted from large quantities of fish caught in the Mafa. At the distance of about 2 miles is an infallable well of sand and clay, of a circular form, the lower parts of which are thickly strewed with detached pieces of red and grey granite. This eminence was remarkable in the times of idolatry for an oracular temple, the site of which is now occupied by a brick whitewashed church.

BRONNIKOO, a town of Siberia, on the Irkuteh, 28 miles N. of Tobolbe.

BRONTES, in Entomology, a species of Papilio (Pleb. Urb.) of a small size, that inhabits Africa. The wings are subcubicated, above and beneath fulvous, with a band on the first pair, and margin of the second snowy white. Fabricius. Obs. In Spec. Inf. of that writer it is described under the specific name of *Annus*.

BRONTES, it is also the name of Papilio Panicus, in some German writers.

BRONTUM, in Antiquity, that part of the theatre underneath its floor, wherein bronze vessels, full of flones and other materials, to imitate the noise of thunder, were kept. Potter. Arch. Grce. Lib. ii. cap. 8.

BRONTI, in Geography, a town of the island of Sicily, 28 miles W. of Taormina.

BRONTLE, among Naturals, a kind of figured flones, commonly hemispherical, and divided by five pointed zones.

The word is formed from *fionis*, thunder; alluding to the popular tradition, that those flones fall in thunder showers; whence they are also denominated thunder-flones; sometimes polar-flones, fairy-flones, and also ombril, by naturalists.

Some take the *brontie* for the petrified shells of the *cebus spatagus*, or breeufs, of Ariflotle. Dr. Woodward rather supposes them to have been formed, and received their shape, in the shell of the *cebus spatagus*; on which supposition they are also ranked in the number of echinites. Dr. Plott contests both.

*Brontie* are sometimes also used in England for a kind of figured flones, shaped like arrow-heads, less properly called areomites, and popularly thunder-bolts.

Dr. Woodward takes not thefe for natural flones, but supposes them to have been fashioned thus by art, to serve as weapons before the invention of iron.
Bronze, in Painting, denotes a colour prepared by the
colourmen of Paris, in imitation of bronze. There are two
forts of it, the red and the yellow, or golden; the latter,
the yellow, is made solely of the finest and brightest copper-
thief that can be had; and in the former there is only added
a small quantity of red ochre, well pulverised. They are
both applied with varnish, and, to prevent its turning
greenish, the work is dried over a coaling-dich, as soon as
bronzed.

Bronzerius, John-Jeron, in Biography, was born
of wealthy parents, in a small town in the Venetian territory,
in 1577. After making great progress in the study of the belles
lettres, philosophy, and astronomy, he was sent to Padun,
where he was initiated into the knowledge of medicine and
anatomy, and in 1597, was made doctor. He now went to
Venice, where he practised medicine to the time of his
death, in 1630. His publications are, "De innato
cindo, et naturali sua, in quo pra veritate res Galeni
dominica definitor," 1626, 4to; "De Principi
Pathepis ex Anatomie Lamptes," Patav. 4to. Though
from defecating the liver of this animal he was satisfied
the blood did not acquire its red colour there, yet he did
not chuse to oppose the doctrine of Galen. His observation,
however, was probably not lost, but led the way to a more
complete discovery of the fact, by subsequent anatomists.

Anat.

Bronzes. Thus Antiquarians denominate figures of
men or beasts, urns, and every piece of sculpture, which
the ancients made of the above metal. Statues, busts, &c.
call of this metal, are called by this name, whether they be
originals or copies.

Bronzing is the art of imitating bronze. See Bronze,
in Painting.

Bronzing, Agnolo, a painter of history and portraits,
born at Florence, in 1511, and became the disciple of
Puntormo, with whom he continued for several years,
and whose style he acquired to such a degree that the paintings
of one and of the other could not be readily distinguished.
His extraordinary abilities are sufficiently evinced in all
his performances. Among others, at Florence, a "Nativity"
is mentioned as incomparable; and also a "Venus,"
embracing Cupid, attended on one side by milhful loves,
and on the other by jealousy, fraud, and other passions, alleg-
oriically represented. The composition and finish
in both these are highly extolled. As his master, Puntormo,
died before he had finished the chapel of St. Lorenzo, at
Florence, the duke appointed Bronzon to complete it.
Bronzino also distinguished himself in the painting of por-
traits; particularly those of Andrea Doria, Dante, Boccaccio,
and Petrarch, and of all the illustrious personages of the house
of Medici. His works at Florence, Pisa, and Pisa,
bear bearing testimony to his merit; nor was he less repected
and esteemed for his amiable qualities than for his professional
talents. His style of design was grand; his pencil neat, but
free; his colouring refined that of Puntormo; and in his
drawings he imitated the manner of Michael Angelo Buona-
roti. He died in 1588.

Pilkington.

Bronzolo, in Geography, a town of Germany, in
the county of Tyrol, seated on the Adige; 5 miles S. of
Bolzano.

Brood, the young of fish and fowls.
The word is derived from the Saxon brodon, to breed;
which alludes to &rvar, to be big with young. The word is also
used for a set of any young. In which sense we say, a brood
of vipers, a brood of oysters. A brood of pheasants is more

Brood of sea-fish is spawned, and lies in still waters,
in which it may have reft to receive nourishment, and grow to per-
fecion. And here it is often destroyed by weirs, draw-nets,
and nets with canvas, or like engines in the bottoms of them;
in harbours, havens, and creeks.—Every weir near the main
sea takes, in twelve hours, sometimes five bushels, some-
times ten, sometimes twenty or thirty. For the preventing
hereof, by J. J. in cap. 12. is enacted, that none shall
create a weir, or weirs, along the sea-shore, or in any haven,
or creek, or within five miles of the mouth of any haven
or creek, or shall willingly destroy the spawn or fry of fish,
on pain of 10s. to be divided between the king and the pro-
ducer. Neither shall any one fish in any of the said places,
with any net of a lefe mesh than three inches and a half
between knot and knot (except for the taking fowrels in Nor-
folk only), or with a canvas net, or other engine, whereby
the spawn or fry of fish may be destroyed; on pain to forfeit
the said engine or net, and 10s. in money, to be divided
between the poor of the parish and the producer.
Brook, or Brood-corn, called by the French courain,
is that part of the comb of a bee-hive, which contains in its
cells the future progeny of the hive, in the three different
flakes of eggs, worms, and nymphs. See Bee, and Queen-
bee.

Brooding, the act of a hen, or other bird, sitting
on a number of eggs, to keep them warm, till they hatch, or
produce young ones. See Hatching.

Brook, a little river or small current of water. A
brook is sometimes distinguished from a river by the latter
flowing continually, and the former only occasionally.

Brooke, Sir Robert, in Biography, an eminent lawyer
of the 16th century, was born at Cleaverly, in Shropshire,
educated at Oxford, and from thence removed to the Mid-
dle-Temple. In 1552, he was called to be Serjeant at law;
and in 1553, appointed lord chief justice of the common
pleas; about which time he was knighted. He died in
1558, leaving behind him the reputation of great skill in his
profession, and of integrity in the exercise of it, both at the
bar and on the bench. His works are "An Abrigment,
containing an Albract of the Year-books, till the time of
Queen Mary;" "Certain Cafes adjudged in the times of
Henry VIII., Edward VI., and Queen Mary, from the 6th
of Henry VIII. to the 4th of Queen Mary," and "Reading
on the Statute of Limitations, made 32d Henry VIII.
cap. 2."

Brooke, Henry, an ingenious author in polite
literature, was the son of a clergyman, and born in Ireland
in 1706. Having commenced his education under Dr. Sheri-
den, and professed it in Dublin college, he removed to the
Temple; where his lively genius and agreeable temper con-
cluded the esteem and attachment of many friends. After
his return to Ireland, he privately married his cousin, an
amiable young lady, at a very early age, of whom he was
appointed guardian, and lived for some time in domestic
retirement; but his increasing family obliged him to exert his
abilities for their support. With this view he came over
to London, and, as it is said, under the eye of Pope, wrote
his philosophical poem of "Universal Beauty," in 1735.
He returned again to Ireland, and engaged in the practice
of the law; but his predominant desire of acquiring distinction
in poetry and elegant literature induced him again to visit Lon-
don, where he produced a tragedy, entitled "Guilvab- Vafa,"
and containing sentiments of liberty so strongly expressed, that
government prohibited its public exhibition at the theatres.
This opposition excited an enthusiastic ardour among his
friends,
friends and party, at the head of whom was Frederick prince of Wales; and the play was published by subscription in 1739, much more to his advantage than if it had been acted. Warmly attached to his royal highness, Brooke took a house at Twickenham, near Mr. Pope's, and sent for his wife, who was proposed by the prince as wet-nurse to a child, of whom the prince was then pregnant. But his expenses exceeding his income, he was prevailed upon by his wife to part with his house, to diminish his servants, and to retire to privacy in his native country. His attachment to the muses, however, continued; and in 1745 his tragedy, entitled “The Earl of Weltham,” was acted at Dublin; and in the same year he published his “Farmer’s Letters,” which were addressed to the people of Ireland, and designed to promote the principles of liberty and patriotism. At this time he was patronized by the earl of Cheltenham, then the lord-lieutenant, and appointed barrack-master. As a poet he afterwards distinguished himself by three pieces, communicated to the public in Moore’s “Fables for the Female Sex,” 1747. His piece, entitled “The Female Seducers,” has been peculiarly admired, not only for tenderness and pathos, as well as sublime poetry, but for the devotional spirit which always characterized the author. Disappointed in his views of farther advancement, he retired into the country, in company with an only brother; where they reared together their numerous families, with mutual harmony and affection. His intervals of leisure were employed in writing dramatic pieces and novels, the former of which he hoped to have introduced on the London stage. But though Mr. Garrick would at one time have engaged him as a writer; his proposals were not duly regarded by Mr. Brooke, who flattered himself with more encouraging prospects, and they were, therefore, never renewed. His tragedy of the “Earl of Effex,” however, which had been acted at Dublin, in 1749, was also performed at Drury-lane in 1760: but as to his other tragedies and comedies, it does not appear whether they were exhibited in any theatre. In 1762 he published a treatise in 8vo. entitled “The Trial of the Roman Catholics,” favourable to that class of Irish subjects; and in 1766, his novel, called “The Pool of Quality,” which attracted considerable attention, though its general plan was wild and incoherent, and the latter volumes were strongly tainted with methodism, in which the religious fervour of his mind at length terminated. Generous and sympathizing in his disposition, and deliberate of economy, he was reduced to the necessity of mortgaging, and, at length, of selling his patrimony; in conformance of which he retired for some years in a rented house at Kidder, which he afterwards quitted for a farm near his former habitation. The affliction of losing his wife, after an union of nearly 50 years, and also of a favourite child, depressed his spirits and deranged his understanding to such a degree as to terminate in almost total imbecility. His novel, entitled “Juliet Grenville,” published in 1774, indicated still more feebly than the last volumes of the Pool of Quality, the decline of his faculties. His two poems, viz. “Redemption,” and the “Fox-chase,” are among his later works, and little known or read. He died in October, 1783, leaving only two survivors of his seventeen children. His dramatic and other works (the novels excepted) were printed in 4 vols. 8vo. 1783. Life prefixed to his works. Gen. Biog.

Brooke, Frances, the daughter of a clergyman, whose name was Moore, and the wife of the Rev. John Brooke, of Norfolk, was distinguished both by her literary talents and the gentleness and fluavity of her manners. Her death, which happened at Sleaford, in Lincolnshire, Sept. 26th 1789, was occasioned by a spasmodic complaint. Her first literary performance was a periodical work, entitled “The Old Maid,” continued from November 15th, 1755, until July 1756, and published in one volume 12mo. In the latter year she published “Virginia,” a tragedy, with odes, pastoral, and translations, 8vo. In 1763, she published her novel, entitled “The History of Lady Julia Mandeville,” which was read with general approbation, although not without a wish that the catastrophe had been less melancholy. In the same year she also published “Letters from Juliet Lady Cateby to her Friend Lady Henrietta Campley,” 12mo; a translation from the French. She soon afterwards accompanied her husband, who was chaplain of the garrison at Quebec, to Canada; and there witnessed those romantic scenes that are so admirably described in her “History of Emily Montague,” 4 vols. 12mo. In the following year appeared “Memoirs of the Marquis of St. Forliex,” 4 vols. 12mo. Soon after her return from Canada, she formed an intimate acquaintance with Mrs. Yates, and had, as some have said, a share with her in the Opera-house. As Mr. Garrick had rejected her first play, which was the tragedy of Virginia, she made a second attempt to obtain his favour, but without success. This conduct, on the part of the manager, excited her resentment, which she expressed with a severity, afterwards lamented and retracted, in a novel, entitled “The Excursion,” and published in 2 vols. 12mo. 1777. Her “Siege of Sinope,” was acted at Covent-Garden, in 1781, and met with temporary approbation, probably from the support that was given to it by the theatrical talents of Mr. Henderson and Mrs. Yates; but her most popular performance was “Rosina,” preferred to Mr. Harris, the manager of Covent-Garden, and acted at that theatre in 1782. Her last work was “Marian,” which appeared in 1788, and was acted with some success, though it was much inferior to her Rosina. She was also the translator of the “Abbe-Millot’s Elements of the History of England, from the Invasion of the Romans to the Reign of George II.” in 4 vols. 12mo. Biog. Dict.

Brookfield, in Geography, one of the most ancient, wealthy, and populous towns of Worcester county, in the state of Massachusetts, situated in the south-western part of the county, and containing 3320 inhabitants; 64 miles W. of Boston, on the post road leading from Boston to New York, and 27 miles W. of Worcester. Its Indian name was “Quaboag.” In the vicinity of this town are iron ore, and large quantities of stone, which yield copperas. It is situated by people from Ipswich, in 1650, and incorporated in 1673. — Also, a township in Orange county, Vermont, including 421 inhabitants; 81 miles northerly from Bennington. — Also, a township of Lincoln county, in the district of Maine, 14 miles above Norridgewalk, on Kennebec river; formerly called “Seven Mile Brook.” — Also, a town in Montgomery county, New York; 160 inhabitants of which are electors by the last census of 1790. — Also, a township in Fairfield county, Connecticut; 6 miles N. E. from Danbury.

Brookhaven, a township in Suffolk county, Long-island, New York, containing 3224 inhabitants, of whom 223 are slaves, and by the last census of 1790, 635 electors. The town includes about 40 houses, together with an episcopal and a presbyterian church; 60 miles E. of New York. Brookline, in Botany. See Veronica Beccabunga.

Brooklyn, in Geography, a pleasant town of America, in Norfolk county and state of Massachusetts, containing about 60 or 70 families; situate between Cambridge and Roxbury, and separated from Bolton on the east by a narrow bay, which
which sets up south from Charles river, and forms a peninsula of Boston. This town supplies Boston with vegetables, and it is the place whither perfons of fortune retire from public life.—Alto, a township in King's county, New York, on the west end of Long Island, containing 1,653 inhabitants, of whom 405 are freemen and 224 are electors, by the last census of 1796. In this place is a presbyterian church, a Dutch reformed church, a powder magazine, and some elegant houses lying chiefly in one street. It is separated from New York by East river, which is nearly a mile broad; and forms an agreeable object from the city.—Alto, a township in Wyandot county, Connecticut, about 20 miles N. of Norwich.

BROOK, in Botany. See GENISTA and SARTORIUM.

BROOM. See ASPALATMUS.

BROOM, African. See RUSCUS ACULEATUS.

BROOM-flower, in Heraldry, the denomination of an order, inlinitated by St. Louis king of France, in the year 1274, on occasion of the coronation of his queen Margaret, eldest daughter of Raymond Berengarius, count of Provence. The habit of the knights was a cloak of white damask, with a violet-coloured hood. The collar was a gold chain of broom-flowers, camellion proper, interlaced with lozenges of gold and flower-de-lis, pendant therefrom, a crescent flore, with this inscription "Exaltat Humiles;" the founder accounting the broom the symbol of humility. Their number was at the sovereign's pleasure, and this order continued till the death of king Charles V.

BROOM-gall, in Entomology. See GALLS of the Broom.

BROOM-isch, or lake, in Geography, an extensive salt-water lake, or arm of the sea, on the north-west side of the county of Ros in Scotland, famous for its excellent herrings. On this lake is the village of Ullapool.

BROOM-rape, in Botany. See OROBANCHE.

BROOM also denotes a well-known household beam, or implement wherewith to sweep away dirt, dust, and the like: thus we say, a birch-broom, a hair-broom, a ruff-broom, a heath-broom. The primitive kind of brooms, from whence the denomination is given to all the rest, was made of the genipa, or wild broom, growing on commons.

BROOM, William, in Biography, a native of Cheshire, was educated upon the foundation at Eton, but failing of a vacancy in a scholarship at King's college, though he was captain of the school for a whole year, he was superannuated, and sent to St. John's college by the assistance of friends, where he obtained a small exhibition. He appeared in the world at an early period as a translatior of the Iliad into prose, in conjunction with O'zell and Oldiworth, a translation, which, though now forgotten, was, in Towne's opinion, superior to that of Pope. After his introduction to Mr. Pope, he was employed by him to make extracts from Enllathus for the notes to the translation of the Iliad; and in Pope's Miscellanies, many of his early pieces were inserted. When the success of the Iliad gave encouragement to a version of the Odyssey, Pope called Fenton and Broome to his assistance; taking half the work upon himself, and assigning the other half to his coadjutors, four books being allotted to Fenton, and eight to Broome. To the lot of Broome fell the 2d, 6th, 8th, 11th, 12th, 16th, 18th, and 23d; together with all the notes. The stipulated pecuniary recompense of Broome was 350l. together with copies amounting to the value of about 500l. more. Fenton, it is said, was to receive 350l. for his four books. This disproportionate distribution of recompense offended Broome, and produced a misunderstanding between him and his employer. He represented Pope as avaricious, and Pope purified him with a vow of hostility. Among other disrespectful reflections in the Dunciad and the Bathos, he reckons Broome among "the parrots who repeat another's words, in such a hoarse odd tone, as makes them seem their own." It is said that they were afterwards reconciled; but they never became friends. Mr. Broome published a miscellany of poems, but never acquired any very high dignity in the church. Whilst he was rector of Sturston in Suffolk, he married a rich widow; and in 1728, on the king's visit to Cambridge, he obtained the title of L.L.D. In 1773, he was presented by the crown to the rectory of Pulham in Norfolk, which he held with Oakley Magna, in Suffolk, given to him by Lord Cornwallis, together with the vicarage of Eye in Suffolk; he then resigned Pulham, and retained the other two preferments. Towards the close of his life, he amused himself with translating odes of Anacreon, which he published in the Gentleman's Magazine, under the name of Chetler. He died at Bath, Nov. 16th 1745, and was buried in the abbey church. Johnson's Lives.

BROOMING, or DREAMING of a fly, the burning off the flitch she has contracted on her sides with flax, reeds, broom, or the like, when she is on a carcass, or on the ground. See CAREENING.

BROONS, in Geography, a town of France, in the department of the Northern coast, and chief place of a canton, in the district of Dinan; 34 leagues S. W. of Dinan. The place contains 2,001, and the canton 11,523 inhabitants; the territory includes 220 kilometres and 10 communes.

BROOTZI, a town of Siberia; 48 miles N. W. of Tomik.

BROOZENKOWA, a town of Poland, in the palatinate of Podolia; 32 miles N. E. of Kamjniec.

BROQUIES, a town of France, in the department of the Aveyron, and district of St. *Afrique, seated on the Tarn; 7 leagues S. of Rhodie.

BROA, a sea-port town on the east coast of Scotland, in the county of Sutherland; near it is a coal-mine, the coals of which are said to take fire on being exposed to the air; here is likewise a quarry of lime-flours, interposed with a variety of shells; 10 miles N. N. E. of Dornock.

BROA, a river of Scotland, which falls through a lake of the same name, in the county of Sutherland, and runs into the sea at the town of Brora.

BROE, a river of Germany, which discharges itself into the Meuse, about a league below Maclricht.

BROS, a royal free town of Transylvania, seated on the Maros; the capital of a tribunal of the same name, in a fertile country, the inhabitants of which distinguish themselves by their skill in agriculture. By an inscription on one of the gates, addressed to the emperor Transjan, it appears to have been a Roman colony.

BROSCHAN, a town of Bohemia, in the circle of Leitmeritz; 4 miles S. of Leitmeritz.

BROSCHI, in Biography. See FARINELLO.

BROSELEY, in Geography, a large, populous village of Shropshire, England, is rendered remarkable from a phenomenon which occurred here at the beginning of the last century. Beneath the surface of the earth is a continued bed of coal, which is dug, and appropriated on the spot to various iron forges, potteries, &c. and great quantities of it are sent to different towns by means of the Severn which divides this parth from Colebrookdale. In the year 1771, it was discovered that a vapour which arose from a well or pit, would take fire upon being condensed in a tube, and ignited by flame. This circumstance excited great curiosity, and many persons came from different parts of the country to witness the burning well, as it was called. A gentleman...
wrote an account of it for the Philosophical Transactions, and further particulars were published in the Gentleman's Magazine, vol. xxv. p. 393. It continued to burn for some time, till the proprietor of the land having sunk a coal pit in the immediate vicinity, thereby destroyed the operating cause. The parish of Brocoly contains 1041 houses, and 4887 inhabitants. It is 146 miles N. W. from London.


Sp. 1. B. Aicastrum. Brown. Jam. "Leaves ovate, lanceolate, perennial; aments solitary; fruit corticofe." A tree making about one-third part of the woods in some parts of Jamaica. Its wood is not despircable, and its leaves and younger branches are a fattening food for all sorts of cattle. Its fruit, when roasted, eats like a chestnut, and is called bread-nut; and when boiled with salt-fish, pork, beef, or pickle, is a wholesome and not unpleasent food. Its leaves and younger branches are full of gum, which renders them disagreeable to cattle at first, but of which they soon become fond. 2. B. furiun. Brown. Jam. "Leaves lanceolato-ovate, acuminate; aments ovate, in pairs; fruit soft." A timber tree in Jamaica, called milkwood, but not much valued.

Offs. Swartz's description of the germ and fruit is very obscure; that given by Bofc, though not easily reconciled with it, is more intelligible. "Flowers united in a globular ament, composed of petiata scales, each of which, in the barren plants, covers a flamen, and in the fertile ones, a germ with a bilf yffle, without either calyx or corolla." Fruit a one-seedled drupe.

BROSME, in Ichthyology, a species of Gadus, that inhabits the southern seas of Greeneland. The mouth is bearded; tail oval, and pointed. Müll.

Brosme is also a synonymous name of coryphaena rufifinis.

Egede Green. BROSNA, in Geography, a river of Ireland, which issues from Lough-Holy in the county of Weftmeath, and soon after passes through Lough Ennen; on leaving which it runs southward into the King's county, and joins the Shannon, about three miles above Banagher.

BROSNA, Little, a river which forms, for many miles, the southern boundary of the King's county, and flows into the Shannon, about four miles below Banagher.

BROSSAC, a town of France, in the department of the Charente, and chief place of a canton, in the district of Barbezies; 10 miles S.S.E. of Barbezieux. The place contains 1077, and the canton 4887 inhabitants; the territory comprehends 150 kilometres, and 12 communes.


Sp. B. cocinea. Linn. "Shrubby, with a scarlet flower and black fruit." Plum. A shrub three or four feet high. Root branched; leaves alternate, petioted, sharply ovate, slightly toothed, smooth, pale green; flowers in racemes at the end of the branches, alternate, peduncled, with two bracts about the middle of the peduncles.

BROSSARD, in Biography, practised surgery many years at Chartre, in the early part of the last century. He had the merit of reviving the practice of using agaric in stopping hemorrhages, after amputations, which had been discontinued. Though that fungus does not possess the powers he attributed to it, and must not be depended on, in stopping the bleeding of large vessels, yet in preventing the effusion of blood, from the smaller arteries, it is of acknowledged utility. He was rewarded by Lewis XV., with a pension, for divulging the secret, in a short memoir, published on the subjeg, in 1757. Haller. Bib. Chirur. Eloy. Diet. Hilt.

Brossard, Sebastian, author of the first musical dictionary published in a modern language, and which has been of singular use to subsequent musical lexicographers, particularly to Grafelmeau, and Jean Jaques Roufeau. Indeed musical historians would be ungrateful not to acknowledge, that the numerous list of writers on the subject of music, ancient and modern, whence he drew his materials, and which he has inserted at the end of his work, has not opened to them subjegs of inquiry, and sources of information. And we think with M. Framer, that Roufeau has treated this intelligent and zealous writer unworthyly, in accusing him of publishing an Italian dictionary, with a French title. When the second edition of Brofard was published in 1702, the French musical technica was insufficient, alone, to furnish a book; nor could their explanation be much wanted, while taken from the current language of the country. Brofard must be allowed to have marked out the road for Roufeau to pursue, which, with his impressive eloquence, he has certainly rendered more flowery and pleasant.

Honest Walther, in 1732, has been more just to his prototype in his German musical lexicon; where there is a greater extent of musical information than in any book of the fize that we have met with.

The French biographes inform us that Brofard, born 1663, was a canon of the cathedral of Meaux, who excelled in knowledge of the theory of music. The writings which he published on the subjeg were all well received; particularly a musical dictionary, which was of great service to J. J. Roufeau, in furnishing him with the greatest part of the materials for his musical articles in the Encyclopedie, which he afterwards collected, and formed into a volume.

Mr. Grafelmeau might, without excessive humility, have called his musical dictionary a translafion. We know the pains,
pains, experience, and perseverance necessary to collect and read each a number of books in all languages, few of which are either amusing or instructive, to which the first compiler of a dictionary or a history is condemned. Johnson calls our language a "multiform and chaotic dialect," and the technical language of music certainly merits these titles more than the terms of any other art or science. Brodard died in 1730, at 70.

BROSSE, Guy de la, great uncle to the celebrated statesman M. Fagon, was born at Rouen, towards the end of the sixteenth century. Being much attached to botany, he gave a piece of ground, in which the rudiments of the jardin royal des plantes medicinales, at Paris, was laid. This was, after much solicitation, enlarged, endowed, and an establishment for the improvement of botany formed, by cardinal Richelieu, and de Brose was appointed physician to the king, Lewis XIIII, and curator of the garden. This was about the year 1626. He had been twelve years soliciting the establishment, and seems to have spent the remainder of his life, which was extended to the year 1641, in improving it. His works, which all relate to his favourite subject, are: "De l'Etat du Jardin Royal pour la Culture des Plantes Medicinales, a Paris, avec l'Edit du Roy touchant l'Etablissement de ce Jardin en 1626." 8vo. "De la Nature, Vertu et Utilité des Plantes, et Deffien du Jardin Royal de Medicine, Paris, 1628." This was afterwards,viz. in 1640, published in folio, with 35 plates, which are much commended. "Description du Jardin, &c. contenant la Catalogue des Plantes, et le Plan du Jardin, 1636." Haller. Bib. Botan. Elov. Dict. Hist.

BROSSE, or De Broche, Peter la, was born at a town in Touraine, and educated to the practice of surgery, in which he acquired so much celebrity, as to be called to attend Philipill of France; to whom, by his artful management, he made himself so useful, that he made him his chamberlain, and entrusted to him the government of the kingdom. Elated with this extraordinary success, he became insolent to the peers, none of whom could get access to the king but through him. Finding the queen was become his enemy, as well as most of the principal personages in the kingdom, with the view of ruining her with the king, he took the horrid resolution of poisoning prince Lewis, the eldest son of the king, by his former queen. This he effected in the year 1726, and then accosted the queen of having committed the murder, in order to raise her son to the throne; but the villainy of the man was discovered by the means, it is said, of a nun; and he was executed, to the great joy of the country. The story is told by Henault, in his Abrigé Chronologique de l'Histoir de France.

BROSSES, Charles de, an eminent mathematician, and man of letters, was born at Dijon in 1709; and pursuading the line of profession for which his family had been distinguished, he became a counsellor of parliament in 1730, and a president à mortier in 1741. As he was eminent for his zeal and integrity, as well as for his talents, he was entrusted with the conduct of many interesting transactions, and in consequence of preventing the remonstrances of the people to the throne, he shared the honourable disgrace incurred by many other worthy persons in the reign of Lewis XV. However, he afterwards obtained distinguishing marks of court approbation, by being appointed president of the parliament of Burgundy in 1774. His intervals of leisure were devoted to the pursuits of literature and science; and in these his range was so extensive as to comprehend history, geography, mythology, antiquities, metaphysics, and languages. He was also acquainted with a great number of learned men, both at home and abroad; and was a member of various literary societies. Buffon had been his school-fellow, and regarded him from his youth as a genius of a superior order. Besides being the author of several memoirs in the collections of the academies of Paris and Dijon, the Journal des Scavans, and the Dictionnaire Encyclopédique, he wrote the following separate works: "Letters on the Discovery of Hercules, &c," 1720, 8vo.; "History of Voyages to the Southern Regions," 2 vols. 1759; in which he maintains the existence of a southern continent, disproved by the subsequent voyages of the French and English, at least within any accedible latitudes: "On the Worship of Fetiches, or a Parallel between Ancient Idolatrie and that of the People of Negroland," 1760, 12mo.; a curious philosophical and mythological performance: "Tentative on the mechanical Formation of Languages," 2 vols. 1765; in which he attempts to establish a general etymological system, deduced from the supposition of a primitive language, founded on the mechanical formation of articulate sounds: "History of the Roman Republic in the Course of the seventh Age of Rome, by Sallust, partly translated from the Original of that Author, and partly composited and restored from the scattered Fragments of his Halt Works," 3 vols. 1777; and "Letters Historiques et Critiques sur l'Italie," &c. 5 vols. 8vo. Paris, 1799. In private and social life he was no less amiable than respectable in his public and literary character. He died at Paris, May 7, 1777. Eloge par M. Murct. Nouv. Dict. Hist.

BROSSETTE, Claude de, was born at Lyons in 1671, first entered among the Jesuits, and afterwards became a lawyer. He was a member of the academy of Lyons, and keeper of the public library in that city. His works besides some professional performances, were "A Brief History of the Town of Lyons," and "A New Historical Enquiry of the Town of Lyons," 4to. 1711, both elegantly written; "Historical Elucidations of the Satires, and other Works of Boileau Delpérreaux," 2 vols. 1705, often reprinted in various sizes; and "A Commentary on the Satires and other Works of Rognier," 8vo. 1729. Brockett corresponded with several literary persons, particularly with Rousset and Voltaire. He died at Lyons in 1736. Nouv. Dict. Hist.

BROTHET, in Ichthyology, one of the French synonyms of the garfish or sea-pike. See Esox Lucius

BROTERA, in Botany, a genus in the class monaldelphio dodecaecia, formed by Cavanilles for a plant found in New Spain, which differs from his genus Dombeya, only in the structure of the capsule: but, as Bois observes, it agrees in generic character, and ought to be united with Pentapetes Phenicea, the only species for which Willdenow has preserved that Linnean genus, the other two original species having been separated from it to form a new genus, which from their winged seeds is called Pteropterpermum. La Marck not thinking the difference in the structure of the capsule sufficient to make a distinct genus, has abolished the genus Dombeya of Cavanilles, Julicini, Ventenat and Willdenow, and has placed all its species under the genus Pentapes, with the original Pentapetes Phenicea, still retaining Pteropterpermum as a distinct genus. See Pentapetes, where the Brotera of Cavanilles will be described.

BROTEROD, in Geography, a town of Germany, in the circle of Franconia, and county of Hamburg, belonging to the landgrave of Hesse Cakel; 5 miles N. of Schmalkalden.

BROTHEL. See Bawdy-bouye and Stews.

BROTHER, Prater, a term of relation between two male children, sprung from the same father or mother, or both. Scaliger and Vossius derive frater from frater, for frater, which properly signifies a person who draws water in
the same well; ἡγέω, in Greek, signifying well, and ἡγείμον, a company of people, who have a right to draw water out of the same well.—The word, it is said, came originally from the city Argos, where there were only a few wells distributed in certain quarters of the city, to which those of the same neighbourhood alone repaired.

By the civil law, brothers and sisters stand in the second degree of consanguinity; by the canon law, they are in the first degree. By the Mosaic law, the brother of a man who died without issue, was obliged to marry the widow of the deceased. Deuter. xxv. 7. See Levirate.

The ancients applied the term brother indifferently to almost all who stood related in the collateral line, as uncles and nephews, cousin-germans, &c.—This we learn not only from a great many passages in the Old Testament, but also from profane authors: Cicero, in his Philippius, says, "Antonia was both wife and father of Mark Antony; because she was daughter of his brother C. Antonius." And as to cousins, Tullius Pohilius, in Dionysius Halicarnassius, calls the Horatii and Curatii, brothers; because they were children.

The language of the Jews, bishop Pearson observes, included in the same brethren not only the strict relation of fraternity, but also the larger of consanguinity. We are brethren, says Abraham to Lot, Gen. xiii. 8. whereas Lot was only his nephew.—So Jacob told Rachel that he was her father's brother, Gen. xxix. 12. whereas he was her father's nephew.—This consideration has been urged with good advantage against the Antidicomarianites, who, from the mention made of the "brothers of Jesus," (Johni. 12. Matth. xii. 46.) have impugned the perpetual virginity of the mother of Christ, for which, however, there seems to be no sufficient foundation.

Among us, it is customary for kings to give the title "brother" to each other; the union in coronation being esteemed to create a kind of "brotherhood." Nor is the custom modern: Menander mentions a letter of Cofroes, king of Persia, to the emperor Julianian, beginning thus: Cofroes, king of kings, &c. to the emperor Julianian "my brother."

Kings now also give the same appellation to the electors of the empire; and the like was given, by the king of France, to the king of Sardinia, while only duke of Savoy.

In the civil law, brothers, fratres, in the plural, sometimes comprehend sisters: as Lucius and Titius, fratres; tres fratres, Titius, Maxius, et Seca.

Brothers, fother, thoe which sucked the same nurfe. The French call them "fratres du lait," or brothers by milk; which is most properly used in respect of a person who sucked a nurfe at the same time with the nurfe's own child.

Brothers, German, Fratres Germani. See German.

Brother was also used, in Middle Age Writers, for a comes, or governor of a province.

Brother is applied, in a lef proper sense, to denote a person of the same profession. In which sense, judges, bishops, priests, &c. call each other brothers.

Brother in Christ, frater in Christo, the same with spiritual brother, a person admitted into a monastic society or fraternity.

Brother is more particularly used to denote the relation between monks of the same convent: as brother Zachary, brother Bonaventure, &c. In English, we more usually say, friar Zachary, &c. from the French word frere, brother.

This appellation is borrowed from the primitive Christians, who all called each other "brothers;" but it is principally used for such of the religious as are not priests; those in orders are generally honoured with the title of fathers, patres, pares; whereas the rest are only simply brothers.

The monks of St. Dominic are particularly called preaching brothers, or friars predicae: those of St. Francis, minor brothers; those of charity, ignorant brothers, &c. Confraternity brothers, fratres confratuum, denote laymen and others entered in the catalogue of the brothers of a monastery, or rather pseudo of the fraternity thereof. Outer brother, frater exterior, sometimes denotes a lay-brother. Strange brother, frater adventus, a holt or guest belonging to another monastery. Foreign brothers, frater externus, either a monk, priest, or canon of some other monastery, to whom the prayers of the society are granted. Mature brother, frater maturus, one distinguished by his age, gravity, or probity, above the rest.

Brothers, spiritual, denote laymen admitted into a monastic fraternity. The name was also given to those other-cisle wife to those adopted brothers, and sometimes also to a sort of adopted brothers, or persons who commenced a kind of brotherhood, with the ceremony of breaking bread together, in the church before the priest.

Brother, lay, frater laicus, or conversus. See Lay Brother.

Brother, given, frater donatus, among the Carthusians, denotes a young person drest in minim cloth, and wearing a hat, whose office is to serve in the house, answering to what in other orders is called an offered brother, frater oblatu.

Brother is also an appellation more peculiarly given to certain orders of religious: thus the

Brothers of St. Alexis, in the Low Countries, were an order of persons who attended on those who lay dying, and took care of the burial of the dead.

Brothers of Ave Maria. See Servites.

Brothers of Charity, a fort of religious Hospitallers, founded about the year 1297, since denominated Billettes. They took the third order of St. Francis, and the cloaculary, making three usual vows, but without begging.

Brothers of Charity, also denote an order of Hospitallers still subsisting in Romish countries, whose business is to attend the sick poor, and minister to them both spiritual and temporal succour. They are all laymen, except a few priests, for administerting the sacrament to the sick in their hospitals. The Brothers of Charity usually cultivate botany, pharmacy, surgery, and chemistry, which they practice with success.

They were first founded at Granada, by St. John de Dieu; and a second establishment was made at Madrid, in the year 1553: the order was confirmed by Gregory XIII. in 1572. Gregory XIV. forbade them to take holy orders: but by leave of Paul V. in 1609 a few of the brothers might be admitted to orders. In 1619 they were exempted from the jurisdiction of the bishop. Those of Spain are separated from the rest, and they, as well as the brothers of France, Germany, Poland, and Italy, have their distinct general, who reside at Rome. They were first introduced into France by Mary of Medicis, in 1601, and have since built a fine hospital in the Faubourg St. Germain.

Brothers of Charity of St. Hippolytus, a religious congregation first set on foot by Alvarez, a citizen of Mexico, in 1585, who associated with him several other persons to attend on the sick, and founded an hospital without the walls of that city; which being approved of by the pope, and the number of like hospitals increasing, a congregation was formed under the title of "The Charity of St. Hippolytus,"
BRO

lytus," because the first hospital had been dedicated to that saint, on whose feast-day the city first fell into the hands of the Chriftians. Clement VIII. in 1594, granted them all the privileges of the Brothers of the Charity of St. John de Dieu.

Brothers of Death, a denomination usually given to the religious of the order of St. Paul, the first hermit. They are called "Brothers of Death," fratres mortis, on account of the figure of a death's head, which they were always to have with them, in order to keep perpetually in their minds the thoughts of death. This order, by its con-
stitutions, made in 1650, does not seem to have been esta-
blished long before pope Paul V. Lewis XIII. in 1621, permitted them to settle in France. It was probably sup-
prefed by pope Urban VIII.

Brothers of Penitence, or of the Penitence of Jesus Christ, a name given at Tholouse to the religious of the third order of St. Francis; called also Beguini; and to a fra-
ternity of Penitents held in the chapel of the church of the third order, under the direction of the Beguini. See Beguini.

Brothers, Pyal, fratres pia, a denomination given to all monks, whose habit was partly white, partly black; they were otherwise called Agachers.

Brothers of St. Gregory the Illuminator, a religious order established in Armenia, in the fourteenth century, which being much reduced and decayed by the conquests of the Turks and Persians, was, in 1556, united to the order of St. Dominic.

Brothers, Joyful, fratres gaudentes, in Italy, denote the knights of the order of the Virgin Mary, first instituted at Bologna in 1261, for whom a rule was prefixed by pope Urban IV.

Brothers, poor, in the Charter-houfe, a denomination given to decayed gentlemen, to the number of eighty, who are habited with diet, cloathing, and lodging on the establish-
ment. The poor brothers are to be gentlemen by descent, re-
duced to poverty, or decayed merchants, fouldiers, or officers of the king's household. The conditions of admission are
that they have no estate for life worth 200l. nor coming in
vis & modis, 24l. per annum; and that they be fifty years
old, unless they have been maimed in the public service; in
which cafe, the age of forty suffices. They wear a livery-
gown within doors.

Brothers, White, the name of a fe& which appeared in
Rufia towards the beginning of the fourteenth century; so
called from their white cloaks, on which was a St. Andrew's
cros of a green colour. See Brethren.

Brothers of Arms, an appellation given to those who con-
tract a kind of fraternity in war, obliging themselves to the mutual service and afiainance of each other. In the mil-
tary orders, the knights are also called brothers.—In the
order of Malta, there is a particular class, who are called "serving brothers;" confining of such as cannot give proof of
their nobility. In Latin they are denominated fratres clien-
tes.

Brothers by adoption. See Adoption.

Two brothers who have only the same father, are called
fratres confugiunti; and those who are only defended from
the same mother, fratres uteri.

Brothers of the Cross. See Flagellantes.

Brothers of the rosy cross. See Rosycrusians.

Brothers, suorum, fratres conjurati. See Fratres.

Brothers, in Alchemy, larm, or maimed, denote the im-
perfect metals, which are to be cured of their lameness by the
perfect elixir; i.e. are to be purified and separated from their
droes, &c. by the philosopher's stone.

Brothers, in Geography, islands in the Indian sea, on the
north side of the entrance into the straits of Malacca. N. lat.
7° 18'. E. long. 78° 10', to 78° 14'.

Brothers, Seven, islands in the Indian sea. S. lat. 3° 24'.
E. long. 60° 25'.

Brothers, Three, islands in the Indian sea. S. lat. 3°
45'. E. long. 65° 25'.—Alfo, islands in the East Indian sea.
N. lat. 10° 32'. E. long. 107° 56'.—Alfo, islands in the fame
sea. S. lat. 5° 20'. E. long. 157° 30'. The moft northerly,
which is about 5 or 6 leagues somewhat southerly from
Thumb hool, is called by the Dutch "North Brother." Be-
tween thefe and Celebes, lies Tonakkee ifland, which is
larger than any of them.—It is three remarkable islands on
the caft coast of New Holland, which may be feen 14 or 16
leagues off at fea. S. lat. 31° 40'. W. long. 207° 10'.

Brothers, Two, lie on the caft coast of New Holland,
off cape Manifold; one of them is low and flat, and the
other high and round; near the shore is a third island.—
Alfo two iflands of New Zealand, near queen Charlotte's
found.

BROTHERHOOD. See Fraternity.

BROTHERHOOD of God, in the Middle Ages, a denomina-
tion given to an afcription formed for refraining and aboli-
ishing the right and exercice of private war. The people,
eager to obtain relief from the fufferings that were thus oc-
casioned, among other expedients, had recourse to a pre-
dated revelation. Towards the end of the 11th century, a
carpenter in Guiney gave out, that Jesus Christ, together
with the blessed Virgin, had appeared to him, and having
commanded him to exhort mankind to peace, had given him,
as a proof of his mission, an image of the Virgin holding her
fon in her arms, with this inscription: "Lamb of God, who
takes away the fins of the world, give us peace." This low
fanatic addressed himself to an ignorant age, prone to credit
what was marvellous. He was received as an inspired me-
senger of God. Many prelates and barons assembled at
Pyu, and took an oath, not only to make peace with all their
own enemies, but to attack such as refused to lay down their
arms, and to be reconciled to their enemies. Thus they
formed the above-mentioned afcription. But the influence
of this superflitious terror or devotion was not of long con-
tinuance.

BROTHERTON, in Geography, an Indian village of
North America, adjoining New Stockbridge in the state of
New York, inhabited by about 150 Indians, who migrated
from different parts of Connecticut, under the care of the Rev.
Mr. Occom. These Indians receive an annuity of 2160 dol-
ars, which sum is partly appropriated to the purpose of main-
taining a school, and partly to compensate a superintendent
for transacting their business, and disposing of the remainder
of their money for their benefit.

BROTIER, Gabriel, Abbe, in Biography, a distin-
guifhed scholar, and member of the French Academy of
Belles Lettres, was born at Tonny in the NiVerneux, in
1723, and educated in the Jefuits' college of Louis-le-Grand, of
which he was for several years librarian. Acquainted
through life to write notes in the margins of all the books
which he read, and distinguished also by a retentive memory
and angular penetration, he had thus collected materials for
several volumes; and as he applied to study for 10 or 12 hours
da day, he had acquired an immense fund and variety of
knowledge. With the exception of the mathematics, his
knowledge comprehended every branch of science, natural
history, chemistry, and even medicine. It was his custom
every year to read Hippocrates, and the books of Solomon,
in the original languages; for these, he said, were the best
remedies for all bodily and mental diseases. But he was
principally
principally devoted to the belles lettres: and had acquired an accurate acquaintance with all the dead languages, particularly the Latin, and with most of the modern languages of Europe. He was also well versed in ancient and modern history, chronology, coins, medals, inscriptions, and the usages of antiquity; and he had collected a great mass of materials for a new history of France, which he was prevented from undertaking. On the dissolution of the order of Jefuits, he found a pleasant asylum in the house of M. de la Tour, an eminent printer, and in this retreat he spent the last 20 years of his life. Here he published his edition of Tacitus, enriched with notes and learned dissertations, and supplements: and also a new edition of Pliny the Naturalist, to which he has added notes and illustrations, being merely a concise abridgment of what he had prepared with a view of correcting and enlarging the edition of Har- douin, and of giving an historical account of all the new discoveries made since the beginning of the 18th century. His other works of inferior importance were a beautiful edition of Plutarch; an edition of Rapin's poem, De Hortis; to which he subjoined a History of Gardens, written in Latin with great elegance, and abounding in the most beautiful imagery. Beside a lively imagination, Broter possessed a sound and discriminating judgment, and an elegant taste. His compositions were clear, and his mode of communicating knowledge admirable. From the abbe Fontenay's further delineation of his character, we shall select the following particulars. 'Humble and unassuming, and of such delicate modesty as cau- sed him to blush when the least encomium was passed upon him; good-tempered, plain in his manners, and giving himself up to society with the smiles and sim- plicity of a child; his conversation was engaging, and always instructive when it turned on subjects of literature and science. Widely differing in this respect from those men of letters, who, if we may be allowed the expression, are masters of their knowledge, and seem to hoard it up for themselves, or that they may make an ostentatious display of it in some publication, the abbe Broter answered with great readiness the questions of every person who applied to him for information, and instructed those around him with the utmost affability and condescension.' 'That intimate friendship which united me to the abbe Broter,' says Fontenay, 'gratitude for the services he did me, his talents, and his virtues, will always endear his memory to me; and I may justly say with the Roman poet, 'Mutis ille bonus flebiles occidit, Nulli sibiulor quam mili.'

This accomplished and elegant scholar died at Paris, Feb. 1768, at the age of 67. The following is a list of the abbe Broter's works, as given in La France Litteraire, by J. S. Etrich, published at Hamburgh in 1795, and cited in Akin's General Biography: 'Examen de l'apologie de M. l'Abbe de Prades,' 1757, 8vo; 'Conclusiones ex universa Theologia,' 1754, 4to; 'Traite des monnaies Romaines, Grecques, et Hebr. comparées avec les monnoies de France, pour l'intelligence de l'Escriture Sainte et de tous les auteurs Grecs et Ro- main,' 1760, 4to; 'Prospect us d'une edit. Lat. de Ta- cite, en 5 vols. 4to,' 1751; 'C. Corn. Taciti Opera, recog- nitae, emend. suppl. explevit, notis, differt. tabulis geogr. illustravit,' 1771, 4 vols. 4to; 'Supplementa, lib. 7, 10 Annal. Taciti,' 1757, 8vo; 'Cl. viri de la Vite vita,' 1763, 4to; 'C. Plini Historia naturalis,' 1779, 6 vols. 12mo; 'Renati Rapini Hortorum, lib. iv. et cultura horti- tulorum, historiam hortorum addidit,' 1778, 8vo; 'Phadri Fabularum, lib. v. cum notis et suppl. accedit. Parallelle J. de la Fontaine Fabulz,' 1785, 12mo. A. C. Broter, the ab-
of a friend at Tottenham High Cross, where he died of a pulmonary consumption in August, 1613. His funeral was attended by a great concourse of friends; and his remains were interred in St. Antholin’s church-yard. As a scholar, and controversial divine, Mr. Broughton was self-opinionated, choleric, rude, and dogmatical; but for the heinous charge of ingratitude to his first friend and patron, Bernard Gilpin, against whom he is said to have incensed the bishop of Durham, there seems to be no sufficient foundation. His works are for the most part printed together in one large folio volume, at London, in 1602, with this singular title, “The Works of the great Albionian Divine, renowned in every nation for great skill in Salem’s and Athens’ tongue, and familiar acquaintance with all rabbinical learning, Mr. Hugh Broughton.” Dr. Lightfoot, addicted to similar kind of literature, highly extols them; but they are now forgotten. During his life, Broughton was not only a subject of angry controversy, but of ridicule; an instance of which occurs in Ben Johnson’s “Alcyoniad.” But this contemptuous reflection was more than counterbalanced by an elegy, polishing great poetical beauties, written by an obscure author, called “W. Primrose,” and annexed to his works. In this elegy, theology is personified, and represented as lamenting the loss of him. What he says of him as a linguist, is as follows:

“Who, tuneful as the silver-pin’d swan,
Canaan’s rich language in perfection sang,”

“_He knew the Greek, plentiful in words and sense,
The Chaldee wife, the Arabic profound,
The Latin pleasing with its eloquence,
The braving Spaniard with its lofty found,
The Tuscan grave with many a laurel crown’d,
The lifting French, that fits a lady vain,
The German, like the people, rough and plain,
The English, full and rich, his native country’s strain._”

Biog. Brit.

Broughton, Thomas, a learned episcopal divine, and one of the first writers in the Biographia Britannica, was born in London, July 5, 1704, educated at Eton, and removed to Cambridge about the year 1722, where he entered himself of Gonville and Caius college. At school he had distinguished himself by the acuteness of his genius, and the fluency of his disposition; and at the university he directed his chief attention to the modern languages, and to the mathematics, which he studied under the famous professor Saunderson. In 1727, he took both deacon’s and priest’s orders, and left the university, to supply the vacancy of Offley in Hertfordshire. In 1739, he was presented to the rectory of Steptingdon or Sibbiington in the county of Huntingdon; and soon after he was chosen reader to the Temple, and thus introduced to an acquaintance with bishop Sherlock, who, in 1744, preferred him to the valuable vicarage of Bedminister, near Brilfol, together with the annexed chapels of St. Mary Redcliffe, St. Thomas, and Abbot’s Leigh. Upon receiving this presentation, he removed to Bridglov, where he married a wife, by whom he had seven children, of whom six survive him. He resided on his living till his death, which happened Dec. 21st 1774; and his remains were interred in the church of St. Mary Redcliffe.

Mr. Broughton, during his residence in London, associated with the principal literary men of his time; and as he was a great lover of music, he was introduced to the acquaintance of Mr. Handel, whom he furnished with the words for many of his compositions. In his public character he united moderation of temper with a zealous attachment to the churitian cause; and in his private life, his disposition was mild, cheerful, and liberal, and he devoted his time and attention
attention to the interests and happiness of his family. From
the time of his quitting the university till he was consider-
ably advanced in life, he engaged in a variety of publica-
tions, of which the following list is taken from a paper in
his own handwriting: "Christiandit from the Reli-
gion of Nature, in three parts, in answer to Christiandit
as old as the Creation; "Translation of Voltaire's Temple
of Potte; "Preface to his Father's Letters to a Roman
Catholic; "Alteration of Dorrel on the Epistles and
Gospels, from a Papish to a Tractastant Book," 2 vols.
Part of the new Edition of Bayle's Dictionary in English,
corrected, with a Translation of the Latin, and other
Quotations; " Jarvis's Don Quixote, the Language
thoroughly altered and corrected, and the poetical parts
translated; "Translation of the motes of the Spectator,
Guardian, and Freetholder; "Original Poems and Tran-
lations by John Dryden esq., now first collected and
published together, 2 vols." "Translations of the quotations
in Addison's Travels, by him left untranslated; " the first
and third Oliphantes, and the four Philiippi of Democ-
thenes (by several hands), revised and corrected, with a new
Translation of the fourth Oliphantes, the Oration de Pace,
and the de Cherfonese, to which are added all the
Arguments of Libanius, and select notes from Ulpian," Svo.;
" Lives in the Biog. Brit. ", "The Bishops of Lon-
dond, and Winchester on the Sacrament, compared; " Her-
cules, a Musical Drama; " a Bibliotheca historico-facra, an
historical Dictionary of all Religions from the Creation of
the World to the present time," 1756, 2 vols. folio, " A
Defence of the commonly received Doctrine of the human
Soul," and " A Prospect of Futurity, in 4 Dissertations,
with a preliminary Discourse of the natural and moral
Evidence of a future State." He also left in manuscript,
"A short View of the Principles upon which Christia-
Churches require of their respective Clergy, Subscription
to established Articles of Religion," which was composed
not long before his death. From several fugitive pieces found
in manuscript among his papers, and two unfinished tragedies
written at the age of 17, it is inferred that he possessed

BROCKTON ISLAND, in Geography, an island of America,
lying at the mouth of Alphabeta river in Georgia, which
belonged to the late Henry Laurens, esq. The fourth chan-
el, after its separation from the north, defends gently,
wing by McIntosh and Broughton islands, in its way to
the ocean through St. Simon's sound.

BROCKHUSIUS, in Biography. See BROCKHUSF.

BROUCKNER, or BROUSNER, WILLIAM, lord count
of Caste Lyons in Ireland, and first president of the Royal
Society after its incorporation, was the son of Sir William
Brouner, made viscount in 1645, and born about the year
1620. At an early period he manifested a genius for those
mathematical sciences, in which he afterwards excelled.
The place and course of his education are not known;
but in June, 1646, he was created doctor of physic at
Oxford; and in 1657 and 1658, he corresponded on math-
ematical subjects with Dr. John Wallis, who published his
letters in the " Commerium epistolicum," printed at Ox-
ford in 1658, 4to. In April 1663, he united with the
nobility and gentry in subscribing a declaration, acknow-
ledging general Monk to be the restorer of the laws and
privileges of these nations. After the restoration, he was
made chancellor to queen Catharine, and keeper of her great
seal, a commissioneer of the admiralty, and master of St.
Catharine's hospital near the tower of London. He was
also an active and useful member of the Royal Society at its
first establishment, and held the office of president with
honour to himself, and advantage to the institution, for 15
years, viz. from July 1663 till November 1677. Of his
works, notwithstanding his activity in promoting literature
and science, there are few extant. These are "Experiments
on the recovering of Guns," published in Dr. Spratt's History
of the Royal Society; "An algebraical Paper upon the
squaring of the Hyperbola," published in the Philosophical
Transactions (See Lowthorp's Abr. vol. i. p. 198, &c.);
"Several Letters to Dr. James Uther, archbishop of Ar-
magh," annexed to that private's life by Dr. Parr; and
"A Translation of the Treatise of Des Cartes, entitled
"Methods Compendium," published without his name, but en-
crised with a variety of observations, which flew that he
was deeply skilled in the theory of the science of music.

Lord Brounker died at his house in St. James's street,
Wellminton, April 5, 1684, and was buried in a vault in
the middle of the choir belonging to the hospital of St.

BROUSONETRA, in Botany. See PAPIRUS.

BROUSSE, in Geography, a town of France, in the
department of Puy le Dôme; 6 leagues E. of Clermont.

BROUSSON, CLAUDE, in Biography, a French pro-
testant, who was a zealous partisan, and at length a
martyr of the reformed religion, was born at Nimes in 1647,
and educated to the law. He exercised the profession of an
advocate for 20 years, first at Caftres and afterwards at
Touloufe, with singular reputation for generosity and dif-
interestedness, as well as firmness and ability. As he took
part in his pleadings with the protestant minister and
churches, an attempt was made to corrupt his integrity by
the office of a counsellor's place, which he rejected with
contempt. It was at his house that the deputies of the
protestant churches assembled in 1683, and here they con-
curred in the resolution of continuing to assemble for
public worship though their churches were demolished.
The execution of this purpose was productive of many
mutuals, editions, and massacres; and though they were
terminated by an amicable issue from the court of Louis
XIV., this was accompanied by an order for arresting seven or
eight persons, who had been principally concerned in framing
the resolution. Brouson was one of these; and appre-
ching the consequence, he had previously retired to
Nimes; and as soon as he received the intelligence of the pro-
posed arrest, he fled to Geneva, and afterwards to Lautanne.
At this latter place he published his "State of the Reformed in
France," 1684; and his "Letters to the French Clergy in faviour of
the Reformed Religion," 1685. About this time he was appointed one of the deputies from
the principal refugees in Switzerland, for engaging
the protestant powers to interest themselves in favour of the
French reformed that were dispersed through Europe.
At Berlin, he composed, by desir of the elector of Bran-
denburg, his "Letters from the Protestants in France to all
other Protestants." From Berlin he went to Holland,
and had several conferences with the prince of Orange and
pensioner Fagel. Afterwards returning to Switzerland,
he printed "Letters to the Roman Catholics;" and, with
a view to the more effectual distribution of them in France,
he ventured, in 1689, to visit that country. On his arrival
in the Cevennes, he accepted the office of minister to a
congregation of protestants, which assembled on the top of a
high mountain, and, notwithstanding the various prosecu-
tions with which he encountered, he continued the exercise
of his ministrual functions in these parts for 4 years. In
1686, he returned to Lautanne, and from thence removed to
Holland, where he printed "A summary Relation of the
Wonders wrought by God in the Cevennes and Lower
Languedoc,
Langsdor, for the confutation and instruction of his defolated Church, to which his enemies would naturally ascribe the character of fanaticism. He also published a volume of sermons, and received from the States of Holland a pension, as a minister. Towards the close of the year 1765, he again visited France, travelling through most of its provinces and employing his pen in various writings. During the negotiation for the peace of Ryswick, he exerted himself in exciting the protestant powers to treat for the re-establishment of the French reformed churches. Failing of success in this object, he made another tour through France, and, after encountering a variety of hazards, he was at length apprehended at Oleron in September, 1768, and carried for trial to Montpellier. Having been convicted of preaching in defiance of the royal edict, and of having held correspondence with the enemies of the state, he was condemned to be broken alive upon the wheel, and he endured the execution of this dreadful sentence with all the firmness appropriate to his character. His eloquence and zeal were universally acknowledged, and by his own party he was regarded as a martyr. The States of Holland did him honour to memory, by adding 600 florins, as a pension to his widow, to the 400 which had been allowed to himself. Nov. Dict. Hill.

BRUEVILLEURS, in Geography, a town of France, in the department of the Volges, and chief place of a canton, in the district of St. Die; one league N. of Brives. The place contains 444, and the canton 3574 inhabitants; the territory comprehends 130 kilometres and 10 communes.

BRUWER, in Biography. See Brouwer.

BRUZET, NICHOLAS, was born in the neighbourhood of Montpellier, where he took his degree of doctor in medicine, in the year 1756, whence he went to Paris, and was admitted corresponding member of the Royal Academy of Sciences, and soon after was made physician to the hospital at Fontainbleau. He published in 1754, "Elia sur l'Education medicinale des Enfans, et fur leurs Maladies," a popular work, by which he obtained much credit. In his chapter on Generation, he follows the system of Buffon, and supposes the organized particles to attract each other, as the particles of salt do in forming crystals. He also contends for the power of the imagination of pregnant women, in marking and deforming the fetus; but though there are these, and other blinities, the work contains many useful practical rules for the management of infants, and for the cure of their diseases. It was translated into English and published in London, in 1755. Haller Bib. Chir. Elyo. Dict. Hill.

BROW-ANTLER, the first branch of the horn of a hart or buck, shooting out from the beam, or main horn, next the head.

BROW-POLE, in Carpentry, a beam which goes across or overthwart a building.

BROWALLA HEIDE, or BROWALLA HEATH, in Geography, a plain of Sweden in the province of Smaland, lying about two Swedish miles from Wexio, and famous for being the place where the Danes were totally routed by the heroic Bleuda, who commanded the Smaland women, in the defence of their husbands, who were engaged in another expedition. As a recompense of their bravery, the women of Smaland were honoured with extraordinary privileges, and wore a kind of martial head-dres; and they have still an equal share of inheritance with the men.

BROWALLIA, in Botany, named by Linnaeus in honour of Browallius, bishop of Abo, who defended the sexual system against Seitzbeck. Linn. gen. 772. Reich. 834. Schreb. 1056. Juss. 123. Gart. 304. Pl. 53. Wildl. 1170. La Maree. Pl. 535. Clas. didyma电机pistioidea. Nat. Ord. Liride-, Serorubularis Juss. Gen. Char. Hol. par. one-leaved, tubular, short, five-toothed, permanent; teeth rather unequal. Cor. monopetalous, funnel-shaped; the cylindric, as long again as the calyx; border flat, five-cleft; segments rounded, emarginate, the upper one a little larger than the rest, and constituting the upper lip. Stamens four, included in the tube; two longer with larger anthers, which close the throat of the corolla. Anthers smooth, incurved, converging; the inner ones two, the outer ones opening at the top with a small hole. Fil., stem ovate, retuse; style thread-shaped, the length of the tube of the corolla; stigma thick, four-lobed. Peric. capsule ovate, obtuse, clothed with the calyx, two-celled, many-seeded, two-valved; valves bisect at the top; partition flat, thin, parallel to the valves, and separating from the sides of the capsule as it advances to maturity, whence Linnaeus judged it to be one-celled. (Gart. and Juss.) Seeds numerous, small.

Eff. Ch. Cor. five-toothed, Cor. border five-cleft, nearly equal, spreading; throat closed by the two larger anthers.

Sp. 1. B. demissa, Linn. (La Maree Pl. 535). "Downy; peduncles alternate, one-flowered." Root annual. Stem herbaceous, about a foot high, branched. Leaves alternate, petioled, ovate-pointed, with short hairs on their petioles and nerves. Flowers axillary and terminating, solitary, shorter than the leaves. Corolla of a bright, but pale blue colour. Seeds sent to Mr. Miller from Panama, in 1755, who named the plant Dalea, in honour of Mr. Dale, an eminent English botanist, and sent the seeds under that name to Linnaeus, who thought proper to change the name to Browallia.

2. B. clara, Linn. (Curt. Bot. Mag. 14.) "Rather smooth, flowers one or more, terminating." Root annual. Stem about two feet high, cylindric, disch, much branched. Leaves lanceolate. Flowers of a beautiful violet-blue. Native of Peru. Both these species must be raised on a hot-bed in the spring, and may afterwards be transplanted into a warm flower border, where, if the weather be favourable, they will flower and ripen their seeds.

3. B. alatissima, Linn. "Upper leaves opposite, two flames the length of the corolla." Taken up by Linnaeus solely on the authority of Miller's figure; and as Miller himself did not insert it in the later editions of his Dictionary, it is a dubious plant.

4. B. humifusa, Forsk. "Hispid, prostrate, flowers axillary, nearly white, white." Stems slender, branched, hispid. Leaves opposite, oblong, sessile, narrowed at their base. Peduncles axillary, solitary, very short. Calyx hispidal, cylindric, with five thread-shaped divisions. Tube of the corolla straight, half an inch long; border open, almost regular, with four oval divisions. Calyx comprized, one-celled, many-seeded, enveloped by the calyx.

BROWFRAKENEN, in Geography, so called from part des Brafsarts, the port or haven of brewers, a sea-port town of Zealand on the north side of the island of Schouwen, opposite to Goree. In 1426 a bloody battle was fought near this town between Philip, duke of Burgundy, and Humphrey, duke of Glouceter, brother to Henry V., king of England, who came with 8000 English to the assistance of Mary de Jaqueteine, countess of Holland, in which the duke of Glouceter was defeated; 8 miles S. of Goree and 8 S. W. of Helvotsylus. N. lat. 51° 42'. E. long. 4° 15'.

BROWWHEAD, a cape of Ireland, at the eastern extremity of Bailey Cove, in the south-western part of the county of Cork. N. lat. 51° 29' 30". W. long. 9° 40'.
Brown, Robert, in Biography, the founder of the sect denominated Brownists, was the son of Anthony Brown, esq. of Tolthope, in Rutlandshire, and the grandson of Francis Brown, whom King Henry VIII., in the 18th year of his reign, privileged by charter to wear his cap in the presence of himself, his heirs, or any of his nobles; and not to uncover but at his own pleasure; which charter was confirmed by act of parliament. This defended of an ancient and respectable family, nearly allied to the lord treasurer Burleigh, he was born at Northampton, towards the middle of the 16th century, studied divinity in the university of Cambridge, and afterwards became a school-master in Southwark. Adopting the opinions of Cartwright (see Cartwright), he determined to form from them what he conceived to be a more perfect system of doctrine and practice; and, about the year 1580, he began to inveigh with intemperate vehemence and ardour against the discipline and ceremonies of the church of England, representing her government as Antichristian, her sacraments as superstitious, her liturgy as a mixture of popery and paganism, and the mission of her clergy as no better than that of Baal’s priests in the old Testament. In the following year he preached at Norwich to a Dutch congregation, in which were several persons inclined to Anabaptism; and having in this situation gained some professedes to his opinions, and establisht a character for sanctity and zeal, he formed a connection with a schoolmaster, whose name was Richard Harrison; and, with his assistance, he collected a number of disciples, partly Dutch and partly English, who, disapproving the forms and service of the established church, were formed into a separate society under the denomination of Brownists. Upon this, Brown was accused before Dr. Frenke, bishop of Norwich, and other ecclesiastical commissioners; but as he persisted in maintaining his opinions, and behaved in an unbecoming manner before the court, he was committed to the custody of the sheriff, from which, however, he was released by the interposition of his relation, the lord-treasurer Burleigh, who candidly imputed his error and obliquity to zeal rather than malice, and recommended reasoning rather than harsh treatment, as the most likely means of reclaiming him. The lord-treasurer’s letter to the bishop produced the desired effect. His lordship afterwards requested archbishop Whitgift to give his kinman necessary instruction and counsel; but Brown left the kingdom, and settled at Middelburg in Zeeland, where he and his followers obtained leave of the States to worship God in their own way, and to form a church according to their own model; a sketch of which was drawn up by Brown, in a tractate printed at Middelburg in 1582. This confisht of three tracts; the first entitled “A Treatise of Reformation, without tarrying for any, &c.;” the object of which is to excite the people to withdraw from the church, and unite with him, and to exclude the civil magistrate from any authority over ecclesiastical persons and concernis; the second is, “A Treatise upon the 23d chapter of St. Matthew, &c.” in which the author explains against the abuse of tongues in preaching, that is, against the use of Hebrew, Greek, or Latin, inermens, also, against the use of logic and rhetoric, &c.; against disorderly preaching at St. Paul’s crofs, &c.; and against parish preachers and hired lecturers: and the third is entitled, “A Book which sheweth the Life and Manners of all true Chritians, and how unlike they are to Turks and Papists, and Heathen folk, &c.” Some time before the year 1585, Brown left Middelburg, and came over to England; for in this year he was cited to appear before archbishop Whitgift, to anwer to certain matters contained in a book published by him; and when he had been brought, by the prelate’s reasoning, to a tolerable compliance with the church of England, he was sent to his father in the country, and recommended by the lord-treasurer to his favour and affection. Brown’s opinions, however, were too deeply fixed to be easily eradicated; and therefore his father, with a severity very different from the conduct of the lord-treasurer, disowned him for his son, and expelled him from his house. Brown had now no settled habitation, and encountered various hardships; but at length he settled in Northamptonshire, and perished in zealously propagating his tenets. Being cited to appear before the bishop of Peterborough, he refused to obey, and was excommunicated for contempt. This cenfure alarmed and humbled him; and having made his submission, he obtained absolution. Accordingly, about the year 1590, he renounced his principles of separation, from that time continued in the communion of the church, and was soon after preferred to the rectory of a church in Northamptonshire. Fuller, however, is of opinion, that Brown never formally recanted his opinions with regard to the main points of his doctrine; but that his propitie of a general compliance with the church of England, improved by the countenance of his patron and kinman, the earl of Exeter, prevailed upon the archbishop, and procured this extraordinary favour for him. He adds, that Brown allowed a salary for one to discharge his care; and though he opposed his parishlers in judgment, yet agreed in taking their tythes. His sect, however, long survived his revolt; and of its peculiar tenets an account is given under the article Brownists. Brown is represented as a man of good parts and some learning; but his temper was inimical and uncontroilable; nor was his cordial agreeable to the Sabbatarian strictness which was afterwards professed by his followers. Fuller says of him, that he had a wife with whom he never lived, and a church in which he never preached, though he received the profits of it; and as all the other feeces of his life were stormy and turbulent, so was his end; for the confable of his parish requiring somewhat roughly the payment of certain rates, his passion moved him to blow; of which the confable complained to justice St. John, who inclined to pity rather than to punish him; but Brown behaved with such insolence, that he was sent to Northampont gaol, on a feather-bed in a cart, being very infirm, and aged above 80 years, where he soon after fickened and died, in the year 1630; after boating of his perccutions, and that he had been committed to 32 prifons, in some of which he could not see his hand at noon-day. Biog. Brit. Brown, Thomas, an ingenious writer, who lived towards the close of the 17th century, was the son of a farmer in Shropshire, and educated at Newport school in that county, where he acquired a considerable acquaintance with the Latin, Greek, French, Italian, and Spanish languages; which
which was farther improved at Christ-church, in the university of Oxford. But notwithstanding his literary attainments, his conduct was so irregular, that he was under a necessity of quitting the university; and, instead of returning to his father, he removed to London, where he was in danger of starving. In these circumstances of penury and distress, he was relieved, by being appointed school-master at Kingston upon Thames; a profidium; however, which, being very unsuited to his disposition, he soon abandoned. Returning to London, he commenced author; and employed himself in writing for the booksellers. His publications were very numerous, and consisted of dialogues, letters, poems, &c. in which his conduction was envied by his humour; for, in his writings, as well as in his conversation, he was always slyly and facetious. But though he had the reputation of a scholar, he was deficient of prudence; and, as he indulged his genius for satire to an extravagant degree, he was more likely to forfeit than to conciliate the friendship of those who were able to afford him; and it was said of him, that he rather chose to lose his friend than his joke. He took pleasure in libelling both the clergy and laity, and his indecorous treatment of religion laid the foundation for remorse, which is said to have embittered the last moments of his life. Mr. Jacob informs us, that towards the close of his career, he was favoured by the end of Dorset; that being invited to dine with him in company with Dryden, and some other gentlemen of similar description, he found, to his agreeable surprize, a bank note of 50l. under his plate, at the time which Dryden was privy to another of 100l. Brown died in 1704, and was interred in the cloister of Weitminster Abbey, near the remains of Mrs. Behn, with whom he had been intimate. His works, consisting of dialogues, essays, declamations, fables, letters, from the dead to the living, translatius &c. were printed in 4 vols. 12mo. in 1767. They are not delibute of learning, and abound with humour, which is jilly charged with want of delicacy. Biog. Dict.

Brown, Moses, vicar of Olney, Berks, and chaplain of Morden college, was born in 1708, and was originally a pen author. In 1733, he published two dramatic pieces, called "Polidus, or distressed Love," a tragedy; and "All bedevilled," a farce, both acted at a private theatre in St. Alban's street. On the institution of the Gentleman's Magazine, he became a contributor to it; and obtained some of the prizes, offered by Mr. Cave, for the best poems; and, in 1736, he published a volume of poems in 12mo.; and, in 1749, "Sunday Thoughts," a poem, 12mo. In 1756, he published "Pecry Lodge," a descriptive poem; he also edited "Walton's complete Angler;" and, in 1773, re-published his "Pilatory Eclogues." He also translated Zimmermann, and was the author of some sermons. He died Sept. 13th, 1787. Biog. Dict.

Brown, John, a clergyman of the church of England, and an ingenious writer, was born in 1754 at Rothbury, in Northumberland, and educated, first at Wigtown, and afterwards at St. John's college, Cambridge, where he acquired great reputation. Upon his quitting the university in 1735, he took orders, and first settled as minor canon and lecturer in the city of Carlisle. In 1739, he took his degree of master of arts at Cambridge; and in the year of the rebellion 1745, he distinguished himself by his zeal for government, and by the intrepidity with which he entered as a volunteer at the siege of Carlisle. In the following year, he preached, on occasion of the trial of some of the rebels, two admirable discourses on the connection between religious truth and civil liberty, and between superstition, tyranny, irreligion, and licentiousness; and his avowed attachment to the principles of whiggism recommended him to the patronage of Dr. Osbaldeston, bishop of Carlisle, who obtained for him a living in Westmorland. About this time, his talents for correct and elegant versification were evinced, in a poem on "Honour," inscribed to Lord Lonsdale, and in an "Essay on Satire," addressed to Dr. Warburton, and prefixed to this eminent critic's edition of Pope's works. The friendship of Warburton was soon followed by that of Mr. Ralph Allen of Prior-Park, who entertained Mr. Brown at his house, and offered him pecuniary assistance. During his visit at Prior Park, he preached two sermons at the abbey-church of Bath; one of which, exposing the mischief of immoderate gaming, is said to have induced the magistrates to issue an order for the suppression of the public gaming tables. In 1771, he published a work which may be still regarded as one of his most capital productions: viz. "Essays on the Characteristics of the Earl of Shaftesbury," comprehending one "On Riddle," considered as a "Tell of Truth," another, "On the Motives to Virtue, and the Necessity of religious Principles;" and a third, "On revealed Religion and Christianity." These essays are written with elegance and spirit, and, at the same time, with candour and politeness. They were of course much read, and frequently re-published, so that a fifth edition of them appeared in 1754. In 1755, Mr. Brown was honoured with the title of doctor of divinity at Cambridge; and, in the same year, he ventured to appear before the public under the new character of a dramatic writer. With the assistance of Mr. Garrick, his tragedy of "Barbarossa" was exhibited on the stage with advantage; and this was succeeded in the ensuing year by "Athelian." Both these performances were published without his name.

The next publication which we shall mention, forms a kind of era in the author's life; it appeared in 1757, and was entitled "An Estimate of the Manners and Principles of the Times." This work was published at a time, when the spirits of the people were extremely depressed by some unprosperous events that had occurred at the commencement, and during the progress of the war, in which the nation was engaged; and it was designed to shew, that a vain, luxurious, and filthy effeminacy, in the higher ranks of life, marked the character of the age, and to point out the caucuses and the effects of this effeminacy. The "Estimate," adapted to the circumstances and disposition of the people, at the time when it appeared, was read with avidity, and several editions of it were called for, in little more than a year. It did not pass, however, unnoticed; it was attacked in a variety of publications; but the most effectual reply to it was, as Voltaire observes, that the English, from that period, began to beat their enemies in every quarter of the globe. In 1758, Dr. Brown published a second volume of the "Estimate," and afterwards, "An explanatory Defence of the Estimate, by way of Appendix;" but the circumstances of the country were changed, and the public attention dropped, so that these pieces, though well written, were much less popular. Besides, the vanity and superior confidence of the author, which had not escaped notice in his first publication, became now more conspicuous, and diffused even many of his admirers; nor could the avowal of the integrity of his intentions, and the greater modesty with which he vindicated himself, in the "Explanatory Defence," avail to remove the prejudices that had been conceived against him. Dr. Brown manifested an irritability of temper, and a propensity to quarrel with his friends and patrons, which prevented him from obtaining those ecclesiastical preferments, to which his literary reputation entitled him; so that the vicarage of St. Nicholas, in Newcastle, upon
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Leonard, with the office of one of the king's chaplains in ordinary, constituted the final form of his church promotions. In 1763, he published "An additional Dialogue of the Dead, between Pericles and Columb," which was appropriated to be a vindication of Mr. Pitt's political conduct against some reflections of lord Latham: and this was followed in 1764, by "The Cure of Saul, a sacred Ode," which was set to music, and performed as an oratorio; and by an ingenious and elegant performance, entitled "A Dissertation on the Rise, Union, and Power, the Progressions, Separations, and Corruptions of Poetry and Music." This dissertation, though ingenious and critical, advanced fanciful principles, and manifested a degree of credulity, with respect to the supposed effect of certain public institutions among the ancients, which gave rise to a variety of criticisms. In 1764, Dr. Brown detached from his "Dissertation" the substance of that part which related to poetry, and published it separately in an octavo treatise, entitled "The History of the Rise and Progress of Poetry through its several Species;" and, in the same year, he published a volume of "Sermons," being chiefly a collection of those which had hitherto been printed chiefly. Of the new are those excellent discourses on education, in which the author has unanswerably refuted some of the positions of Rousseau in his "Emile," and other speculations, and satisfactorily evinced the necessity and importance of forming the minds of children to early habits of piety and virtue. The author's attention was again directed towards politics, and in 1765, appeared his "Thoughts on civil Liberty, Levicent'fudens, and Faction," containing censures on those persons, who, at that time, opposed the measures of administration, and clashing with a prescribed code of education. As he proposed that this code should be adopted and enforced by government, it produced the animadversions of Dr. Prinikly, in his "Essay on the Course of a liberal Education, for civil and active Life." The author's discourses on education in general, were followed by a sermon "On the Female character and education," to which is annexed an appendix, in which he states, in a very liberal manner, the moral and political principles which should be inculcated on the attention of young persons; and, in his opinion, these are such as are evidently founded on the precepts of Christianity, and the laws of freedom. He proceeds farther to discuss the question, "whether there be any opinions or principles which ought not to be tolerated (or suffered to be taught) in a well-ordered, free community?" and to this question, he replies, that, in his judgment, there are many opinions or principles, tending evidently to the destruction of society or freedom, and which, therefore, ought not to be tolerated in such a community. Accordingly, he alleges influences in the three principal kinds, religious, moral, and political, taken from Mr. Locke, and supported by his authority. In 1765, appeared Dr. Brown's last publication, which was "A Letter to the R. W. Dr. Lowth, occasioned by his late Letter to the right Rev. Author of the divine Legation of Mofes," and repelling insinuations, unjustly suppos'd to have been aimed at his moral character, on account of his abdication and defence of Dr. Warburton. Besides the works already mentioned, Dr. Brown published a "Poem on Liberty," and some anonymous pamphlets. He had also announced an intention of publishing "Principles of Christian Legislation," but his design was frustrated by his death. In his will, however, he gave orders, among other particulars relating to the arrangement and publication of his works, that this treatise should be finished; but this part of his will was never executed.

At the time when Dr. Brown's discourses on education were published, Dr. Dumaresq had been invited to reside in Russia, and was employed by the emperors in suggesting regulations for the establishment and conduct of several schools, which he was about to erect in various parts of her dominions. On this occasion, a correspondent was proposed by a lady of England, between him and Dr. Brown, who entered largely into the subject, sketched the outline of a grand scheme of education, and also of legislation, for the Russian empire, and voluntarily offered to remove to Russia for the purpose of aiding in the execution of it. Dr. Dumaresq, after some previous deliberation and conference with Mons. Muller, his associate, on the business, translated Dr. Brown's paper into French, and presented it to M. de Panin, who had it before the empress. She was impressed by the communication; and Dr. Dumaresq was commissioned to invite Dr. Brown to the Russian court. He accepted the invitation; and received a remittance of 1000l. which the emperors had ordered towards defraying the expenses of his journey. The length of the journey, the changes of climate, and various other circumstances alarmed his friends, who observed, that his constitution was enfeebled by repeated attacks of the gout; and that they dissuaded him from the undertaking, which, after various preparations, he at length determined to renounce. As he had received only 200l. of the money that had been ordered, and returned above one half of it, after deducting the expenses which he had unavoidably incurred; his honour and integrity in the whole transaction were unimpeachable; more especially as he continued to transact with the emperors such observations as might serve to facilitate the execution of her plans, and render them effectual to the purpose for which they were adopted. This negotiation agitated the spirits of Dr. Brown; and its issue, in which, however, he thought it prudent to acquiesce, disappointed and mortified him. The pride of his temper, and the sense he entertained of his own importance, contributed, in no small degree, to that dejection of mind, which, concurring with a constitutional tendency to infirmity, led him to put an end to his life with a razor, Sept. 25th, 1766, in the 51st year of his age. Biog. Brit.

Brown, Sir William, M.D. of a respectable family in the county of Norfolk, was born in the year 1692. His father, who was a physician, first inspired him with a taste for the study of medicine. In 1707, when he was only 15 years of age, he was admitted of Peterhouse in Cambridge; and having passed through the preliminary degrees, he was in 1721 admitted Doctor in medicine. Of the respect he retained for his alma mater, and of his fondness for literature, he gave evidence, by leaving to the university of Cambridge a sum of money, the interest of which he directed to be laid out every year, in furnishing three gold medals, to be given to the three most successful candidates in Greek, and Latin poetry. Of the books left him by his father, he says, he kept for his pocket companions, Bleak's Greek Testament, Hippocrates's Aphorisms, and an Elzevir's Horace; from the first to draw divinity, from the second phycic, and from the last good sense and vivacity. Soon after leaving college, he went to Lynn in Norfolk, where he practised physic nearly thirty years, and as it appears, with reputation and profit; for speaking of his leaving that town, to come to London, he says, "The manly age and inclination, with conformable studies, I diligently applied to the practice of physic, in the country; where, as that age adviced, I fought riches and friendships. But bring at length fatigued with friends, whom truth, not flattery, had procured; fatigued with riches which Galen, not fortune, had presented; I returned to this college (of physicians) where I might addict myself totally to the service of honour."
This was about the year 1750. He did not, however, decline practice when he came to London, going wherever he was sent for; but as he was a humourist, and had many quirks in his manners, he never became very popular as a physician in this place. This did not prevent his receiving all the honours the college could bestow upon him. They gratified his vanity, his ruling passion, by electing him president two succeeding years. It was the custom, Sir William tells us, in his farewell oration, "to continue the president, an entire lifetime, five years. But two years, he adds, more than satisfy me; that each of the elects may, in his turn, hold the sceptre of prudence, no tenure pleasing longer than a year." He felt, however, this deviation from their custom, and the college probably lost a legacy; but they were obliged to pay him by, as his quirks had attracted the notice of Mr. Foot, the Ariiphantes of the age, who appeared in the Devil upon Two Sticks, one of his farces, in the costume of the doctor; the wig, the coat, the gaita, and every action so exactly imitated, that no one could doubt who was intended to be represented. At one of the exhibitions of this piece the doctor was present, and the next day he sent a card to Mr. Foot, complimenting him on having to happily represented him; but finding he had forgot the muff, he had sent him his own. This good-natured reproof disarmed Foot, and the imitation was discontinued. About the same time he became the subject of a print, in which he was caricatured not by distorting, but by giving an exact delineation of his person, dress, and gesture: the inscription is Fucens, eques, medicus, rhetor, dux, atque poeta. Ecce! 1771. The doctor, however, took all in good part, and continued rather to follow his own humour, than the manners and fashions of the world. As proofs of his good nature, and proofs of his being perfectly at peace with himself, we may mention that when he was at Lynn, a pamphlet being published to ridicule him, he nailed it to the outside of his door, that it might be read by all who passed by; and when he was in the 80th year of his age, he went to Batson's coffee-house, on St. Luke's day, in his laced coat and band, with fringed white gloves, to shew himself to Mr. Crosby, then lord-mayor. A gentleman present observing how well he looked, the doctor observed, "He had neither wife nor debts." He had, however, been married, and left one daughter, who became the wife of Martin Folkes, and mother to Sir Martin Browne Folkes, bart. From the time of his coming to London he lived in Queen square, Great Ormond street, where he ended his days on the 10th of March, 1774, in the 82d year of his age. He had always been fond of scribbling, and in the early part of his life printed (for they could hardly be said to be published, the circulation of them being nearly confined to his friends) "Translations, or Imitations, of certain Odes of Horace;" and afterwards, when in London, his "Harveian Oration," and "A Vindication of the College of Physicians against the Licentiates, and their Advocates, solicitor-general Murray." There he collected together, and in 1765, printed under the title of "Opuscula Varia, &c." He also published a farewell oration, on quitting the prebendary of the college, from which the principal traits of his life here given have been taken. New and General Biog. Dict.

Brown, John, a surgeon of eminence in London, published in 1678, "A Treatise of Glandules, and Strumas, the King's Evil, &c." 4to; and in 1681, "A complete Treatise of the Mafeles, as they appear in the Human Body," folio, London. This has been translated into Latin, and printed at Leyden, Amsterdam, Berlin, &c., though now superceded by more accurate descriptions. The plates are principally taken from Julius Caesarius. He also communicated to the Royal Society, an account of a difeased liver, which is published in their Transact. Hall. Bib. Anst.

Brown, Patrick, M.D. practiced medicine at Jamaica, and published in 1736, folio, "The civil and natural History of Jamaica, containing an Account of its natural Productions, Fossil, Vegetables, and Animals." He describes the manner practiced there, of cultivating the sugar-cane, coffeeter, cotton, ginger, and indigo, and of collecting aloes from incisions made in the knaves of the plant. Hall. Bib. Bot.

Brown, John, a celebrated teacher of medicine, born in the parish of Baunce in the county of Berwick, in the year 1735, of parents in a mean situation in life. In common with the children of other villagers in Scotland, he received his education at a grammar school. As his mind was much above the rank he was born in, his progress in literature was proportionably superior to the rest of his school fellows. He there imbibed a taste for letters; so that when he was afterwards put apprentice to a weaver, instead of attending to his business, his whole mind was bent on procuring books, which he read with great eagerness. Finding this disposition could not be conquered, his father took him from the loom, and sent him to the grammar school at Dunse, where the famous Dun Scotus had been educated. Here, under the tuition of Mr. Cruickshanks, he made such progress, that he was soon regarded as a prodigy. He read all the Latin classics with the greatest facility, and was no mean proficient in the knowledge of the Greek language. "His habits," we are told, "were sober; he was of a religious turn, and was so strongly attached to the sect of Seceders, or Whigs, as they are called in Scotland, in which he had been bred, that he would have thought his salvation hazarded, if he had attended the meetings of the established church. He aspired to be a preacher of a purer religion." An accident, however, disquieted him with this society, before he was of an age to be chosen a pastor, for which it appears he was intended. Having been prevailed on, by some of his schoolfellows, to attend divine service at the parish church at Dunse, he was summoned before the session of the feeding congregation, to answer for this offence; but his high spirit not brooking to make an apology, to avoid the censure of his brethren, and the ignominy of being expelled their community, he abdicated his principles, and professed himself a member of the established church. As his talents for literature were well known, he was taken, at the age of twenty, to the house of a gentleman in the neighbourhood of Dunse, as tutor to his son. Here he did not long reside, for what cause is not known, but went the same year, 1755, to Edinburgh, where he applied to the study of theology, in which he proceeded so far as to deliver, in the public hall, a discourse upon a preëdented portion of scripture, the usual step preliminary to ordination. But here his theological studies appear to have ended, and he suddenly left Edinburgh, and returned to Dunse, and officiated as an usher in the school where he had been educated. He now exhibited himself as a free-liver and free-thinker, his discourse and manners being equally licentious and irregular; which accounts for his declension of the study of theology. At Dunse he continued twelve months, from Michaelmas 1758, to the same time in the year 1759. During this time, a vacancy happening in one of the classes in the high school at Edinburgh, Brown appeared as a candidate, but was not successful. Soon after he was applied to by a student in medicine, at Edinburgh, to put his inaugural thesis into Latin. This task he performed in so superior a manner, that it gained him great reputation: it opened to him a path, which he
had not probably before thought of, for turning his erudition to profit. On the strength of the character procured him by this performance, he returned to Edinburgh, determined to apply to the study of medicine. "He had now," he said, "discovered his strength, and was ambitious of riding in his carriage as a physician." At the opening of the session, he addressed Latin letters to each of the professors, who readily gave him tickets of admission to their lectures, which he attended diligently for several years; in the interval, teaching Latin to such of the pupils as applied, and illusing them in writing their theses, or turning them into Latin. The price, when he composed the thesis, was ten guineas: when he translated their compositions into Latin, five. If he had been now prudent, or had not indulged in the most destructive excesses, he might, it is probable, in a few years have attained the eminence he promised himself; but he marred all by his intemperance. In no long time after this, his constitution, which had been hardy and robust, became debilitated, and he had the face and appearance of a worn-out debauchee. His bad habits had not, however, prevented his getting the friendship or affiance of Dr. Cullen, who, deeming of availing himself of his talents, employed him as a tutor to his sons, and made use of him as an assistant in his lectures; Brown repeating to his pupils, in the evening, the lecture they had heard in the morning, and explaining to them such parts as were abstruse and difficult. In 1758 he married, and took a house, which was soon filled with boarders; but continuing his improvident course, he became a bankrupt at the end of three or four years. He now became a candidate for one of the medical chairs, but failed; and as he attributed his failing this promotion to Dr. Cullen, he very unadvisedly broke off his connection with him, and became the declared enemy to him, and his system; which he had always before strenuously defended. This probably determined him to form a new system of medicine, doubting means to annihilate that of his former patron. As he had read but few medical books, and was but little versed in practice, his theory must have been rather the result of contemplation, than of experience. That in forming it, he was influenced by his attachment to spirituous liquors, seems probable from internal evidence, and from the effects he attributed to them of diminishing the number, as well as the severity of the fits of the gout, under which he suffered. He always found them more severe and frequent, he says, when he lived abstinence. One of his pupils informed Dr. Beddoes, "that he was used, before he began to read his lecture, to take fifty drops of laudanum in a glass of whipped, repeating the dose four or five times during the lecture. Between the effects of these stimulants, and voluntary exertions, he soon warmed, and by degrees his imagination was excited into phrenzy." His attention seems to have been simplified by this means, and to render the knowledge of it easily attainable, without the labour of studying other authors. All general, or universal diseases, were therefore reduced by him to two great families or classes, the athenic and the athetic; the former depending upon excess, the latter upon deficiency of exciting power. The former were to be removed by debilitating, the latter by stimulants, medicines of which the most valuable and powerful are wine, brandy, and opium." As athetic diseases are more numerous, and occur much more frequently than those from an opposite cause, his opportunities of calling in the aid of the powerful stimulants were proportionately numerous. "Spasmodic and convulsive disorders, and even hemorrhages," he says, "were found to proceed from debility; and wine, and brandy, which had been thought hurtful in these diseases, he found the most powerful of all remedies in removing them." When he had completed his plan, he published his theory, or system, under the title of "Elements of Medicine," from his preface to which the preceding quotations have been principally taken. Though he had been eleven or twelve years at Edinburgh, he had not taken his degree of doctor; and as he was now at variance with all the medical professors, not thinking it prudent to offer himself the degree, he went to St. Andrews, where he was readily admitted to that honour. He now commenced public teacher of medicine, making his Elementa his text book; and convinced, as it seems, of the foundations of his doctrine, he exulting demands (preface to a new edition of the translation of his Elements, by Dr. Beddoes) whether the medical art hitherto conjectural, incoherent, and in the great body of its doctrines false, was not at last reduced to a science of demonstration, which might be called the science of life." His method in giving his lectures was, first to translate the text book, sentence by sentence, and then to expatiiate upon the passage. The novelty of the doctrine procured him at first a pretty numerous list of pupils; but he was irregular in his attendance, and his habits of drinking increased upon him, they were more reduced in number, and he became involved in his circumstances, that it became necessary for him to quit Edinburgh; he therefore came to London in the autumn of the year 1759. Here, for a time, he was received with favour; but his irregularities in living increasing upon him, he came to his lodgings, in the evening of the 8th of October in 1758, intoxicated, and taking, as it was his custom, a large dose of laudanum, he died in the course of the night, before he had entered in his course; his lectures, for which he was making preparation. He had the preceding year published "Observations on the old Systems of Phyle," as a prelude to the introduction of his own; but it was little noticed. His opinions have, however, met with patrons in Germany and Italy, as well as in this country, and a few volumes have been written on the subject of them; but they are now pretty generally, and deservedly, abandoned. Beddoes' edition of John Brown's translation of his Elementa Medicinae, 1759. Brown, John, an ingenious artist and elegant scholar, was born at Edinburgh in 1753, and driven to the profession of a painter. Whilst he was at Rome, he became acquainted with Sir William Young and Mr. Townley, and accompanied them, as a draughtsman, into Sicily. In this island he was employed in taking several fine views of its antiquities, which were exquisitely finished, and preferred the appropriate character of the buildings which he intended to represent. Upon his return to his native town, after a residence in Italy of more than ten years, he gained the esteem of many literary persons by his elegant manners and instructive conversations on various subjects of art, and particularly on music, to which his knowledge was so extensive and accurate. He was particularly distinguished by the attention of lord Monboddo, who, in the fourth volume of the "Origin and Progress of Language," reprents him as eminently skilled in the arts of painting, sculpture, music, and poetry: nor was he less deserving of respect for his moral qualities than for his literary attainments. He visited London, where he was much employed as a painter of small portraits with black lead pencil, which, besides being correctly drawn, faithfully exhibited the features and character of the persons whom they represented. Death, however, deprived the public of this ingenious artist in 1758, by the progress of a disease, which he bore with a firmness of mind that had marked his character through life. Soon after his death, his "Letters on the Poetry and Mufic of the
the Italian Opera," were published in 12mo., together with an introduction, by lord Monboddo, in one volume, 12mo., 1789, for the benefit of his widow. Mr. Brown left behind him several very highly finished portraits in pencil, and many exquisite sketches in pencil, and in pen and ink, which he had taken of persons and places in Italy. The peculiar characteristics of his hand were delicacy, correctness, and taste; and the leading features of his mind were acuteness, liberality, and sensibility, joined to a character firm, vigorous, and energetic. His last performances were two exquisite drawings, one from Mr. Townley's celebrated bust of Homer, and the other from a fine original bust of Mr. Pope, generally supposed to have been the work of Rydburck. From these two drawings, two very beautiful engravings have been made by Mr. Bartolozzi, and his pupil, Mr. Bovi. Biog. Dict.

Brown, Abraham, one of the principal performers on the violin, before the arrival of Giardini, in this country. After the death of Felling, in 1752, he succeeded him at Ranelagh, as leader of the king's band, and at several concerts. But this performer, who had a clear, sprightly, and loud tone, with a strong hand, and had travelled throughout Italy, was ignorant of music, and the pieces he played consisted of notes, et rien que des notes: for he had no soul or sense of expression. He brought over a favourite solo of Tartini (the second in the second set, published by Walsh), with which alone he figured at all concerts, for at least five or seven years, without ever entering into Tartini's true style of playing it, or that of any performer of his school. Mr. Brown, however, had not the mortification either to feel or know his defects; but, on the contrary, was comforted with a full conviction of his superiority.

Brown, George, an Irish prelate, and the first bishop that eloped and promoted the reformation in that country; was originally an Augustinian friar of London, and educated in the house of his order, near Holywell, in Oxfordshire. He afterwards became provincial of the Augustinian monks in England. Having taken the degree of doctor of divinity at some foreign university, he was admitted to the same degree at Oxford in 1534, and soon after at Cambridge. Upon the perusal of some of Luther's writings, he entertained a favourable opinion of his doctrine, and recommended to the people to make their supplications solely to Christ, and not to the Virgin Mary, or the Saints. These sentiments procured for him the favour of Henry VIII., who promoted him in March, 1535, to the archbishopric of Dublin, and soon after appointed him one of the commissioners for executing the royal mandate, that obliged the Irish to renounce the papal supremacy. In the conduct of this business he encountered many difficulties; as he also did in carrying through the parliament, which met in Dublin, May 1, 1536, the bill for establishing the king's supremacy over the church of Ireland. During the progress of the reformation, when Henry began to suppress the monasteries in England and Ireland, archbishop Brown completed the design which he had formed of removing all superfluous relics and images out of the two cathedrals of St. Patrick's and the Holy Trinity, in Dublin, and out of the other churches in his diocese; and he placed, in their room, the creed, the Lord's prayer, and the ten commandments, in gold letters. In 1541, the king converted the priory of the Holy Trinity into a cathedral church, confounding of a dean and chapter; and the archbishop, three years after, founded in it three prebends, from which time it has been denominated Chirll-Church. The order of king Edward VI. for introducing into all the churches of Ireland the English liturgy, and the Bible in the vulgar tongue, though warmly opposed by the papist party, was readily received by archbishop Brown; and on the Easter day following, the liturgy was read at Christ-Church in the presence of the mayor and bailiffs of the city, and the lord deputy St. Legger; on which occasion the archbishop preached a sermon against keeping the scriptures in the Latin tongue, and against the worship of images. This sermon is annexed to the archbishop's life. When Dowdall, the primate, was deprived of this dignity, on account of his opposition to the royal order, it was conferred in October, 1554, on archbishop Brown; but upon the accession of queen Mary, he also was deprived both of the primatecy and archbishopric in 1554, under pretence that he was married; but in reality, because he had been zealous in promoting the reformation. He died about the year 1556, leaving behind him the character of a faithful subject, a zealous promoter of religion, and a pattern of meekness, cheerfulness, and benevolence. Biog. Brit.

Brown, William, an English poet, was born at Tavistock in Devonshire, in 1550, and admitted into Exeter college, Oxford, about the beginning of the reign of king James I. Having made very considerable proficiency in classical learning and polite literature, he left the college, and removed to the Inner Temple, London, where he devoted himself to the muses, and probably paid little attention to the study of law. In 1614, he published the first part of his "Britannia's Pastorals," 8vo.; a great part of which he seems to have written before he had attained his 20th year. In the following year he published "The Shepherd's Pipe, in Seven Eclogues," 8vo.; and in 1616, the second part of his "Britannia's Pastorals," which were well received, and gained him great reputation. He also wrote the "Inner Temple Mufique," and some other small poems, which are included in the edition of his works published by Mr. Davies in 1773., in three small volumes. In his Pastorals there is much poetical imagery, and sometimes beautiful description, and his verification is often very harmonious; but though he knew how to move the heart by strokes of genuine nature and passion, his writings abound with point and conceit, and other frivolous ornaments, which indicate a vitiated taste; with a fertile imagination and a vigorous mind, his judgment was perverted by those Italian models, which it was the fashion of his time to imitate. His descriptions, though picturesque, are extravagant; his conceptions, though strong, have marks of deformity; and his language never flows in a strain of continued purity. He could not plan with precision and delicacy, and was unable to join correctness with spirit. Such is the account given of his writings by an anonymous critic. In 1624, he returned to his college; became tutor to that earl of Carnarvon, who was killed at the battle of Newbury, and who is highly extolled by Clarendon; was created M. A. in that year; and was styled in the university-registrar "Vir omni humano literatura et bonarum artium cognitioe instructus." He was afterwards taken into the family of the earl of Pembroke; and, as Wood says, "got wealth, and purchased an estate." Towards the close of his life, he is supposed to have retired into his own county, and to have died there about the year 1645. Biog. Brit.

Brown, Sir Thomas, more known now as an antiquary, than as a doctor of physic, was born in the parish of St. Michael, in Cheapside, the 10th of November, 1625. Being left by his father, who died when he was young, an ample fortune, he was sent to Wenchellere school, and having passed through the usual exercises there in 1623, he was admitted a gentleman commoner in Pembroke college, Oxford. In 1627, he took his degree of bachelor, and three years after of master of arts. During this time, besides applying...
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ng with ability to classical literature, in which he made great progress, he had attended to the study of medicine, which he practiced for a small time at Oxford. With a view of improving himself in that art, he determined on visiting the schools on the continent; but he went first to Ireland, where his mother then was with her husband, Sir Thomas Dutton, who held a post in that kingdom. With him he traveled over the greater part of Ireland; and Dutton collected what might be gathered there, in furtherance of his design. He went to France, and spent some time at Montpellier. He then visited Padua, and thence proceeded to Leyden, where he continued, until he took his degree of doctor in medicine. This was about the year 1633. In 1634, he came to London, and soon rendered his name famous, by the publication of his "Religio Medici," a work of deep reflection, and evidently the fruit of much study and attention. It was no sooner published, we are told, than it excited the attention of the world, by the novelty of its paradoxes, the dignity of its sentiments, the quick succession of images, the multitude of abstruse allusions, the facility of disquisition, and the strength of language with which it was written. He begins with declaring himself a Christian, but he has been claffed among the freethinkers. Whatever might be his inconsistency on some points, he favored the notion of guardian angels, allowed the reality of apparitions, and of diabolical illusions; and affirmed, from his own knowledge, the certainty of witchcrafts. This latter opinion is said to have had no small influence in occasioning the condemnation of some unhappy victims, the execution of whom was one of the latest instances of the kind that disgrace the English annals. His natural disposition, however, was averse from severity and intolerance; he declares himself to be an enemy to persecution, and he was almost tempted by his c.feuity, to doubt of the eternity of future punishments, and the absolute condemnation of virtuous heathens. His sentiments were those of philanthropy, and he inclined to a favourable opinion of mankind in general. In his moral compositions, however, he seems to have been more influenced by vanity, than by a real desire of improving mankind. Sir Kenelm Digby published observations upon the "Religio Medici," which are now generally bound up with the work. The remarks are acute and ingenious, but what seems most wonderful is, that it cost the writer only twenty-four hours in procuring, reading, and making his annotations on the book. It was soon after translated into Latin by Mr. Merryweather, a gentleman of Cambridge, and from his version it was again translated into Italian, German, Dutch, and French. An edition of the Latin version was published at Strasburgh, with large notes by L. Niclaus Molitarius. The peculiarities of this book raised the author, as it usual, Dr. Johnson observes, many admirers, and many enemies; it was only, however, profusely answered, by one writer, Alexander Ros, in a work, entitled "Medicus Medicatus," which was never much noticed. In 1637, he was incorporated in the university of Oxford, and then went and settled at Norwich, where he was much respected, and attained high reputation, Anthony Wood says, for his skill in his profession, which, in a few years, procured his admission as honorary member of the Royal College of Physicians in London. In 1641, he married Mrs. Dorothy Micham, a lady of a good family in Norfolk, and of great personal as well as mental endowments. These excellent qualities of the lady did not free him from the farcicins of the wits who remembered the Dr. had expressed a wish, in his famed works, that preoccupation or population might go on without the cohabitation of the sexes; which he called "the foolishest thing a wife man did." The doctor and his lady, however, lived together in great harmony for more than forty years, and left a son, who was educated to medicine, and three daughters. In 1646, he published his treatise on vulgar errors, "Plutodaxia Epidemica." In this he combats, with great learning and ingenuity, numerous notions or opinions on natural and other objects, which had obtained general credit, not only among the common people, but among physicians and other literary perfons. The work is, of course, miscellaneous, and occupies as many chapters as there are errors he wished to reform; but as it is in general circulation, and has been frequently reprinted, it is unnecessary to lay more of it, than that it added considerably to the fame the author had obtained by his former work. In this work, however, he opposed the Copernican system of astronomy, and contended for the immobility of the earth. In 1671, he was knighted by King Charles II., in his passage through Norwich, and with particular marks of esteem. He had before, viz. in 1658, published "Hydrographia," or Discourse on Urn-burial, together with the Garden of Cyrus, or the Quincuxial Lozenge, or Network Plantation of the Ancients, &c." In these he treats, Dr. Johnson says, with his usual learning, on the funeral rites of the ancient nations; exhibits their various treatment of the dead; and examines the subordinations found in his Norfolcian usus. There is not, perhaps, any one of his works which better exemplifies his reading or memory. It is scarcely to be imagined how many particulars he has amassed together, in a treatise which seems to have been occasionally written; and which, therefore, no materials could have been previously collected. This is the last work our author published; but he continued to live esteemed for his virtues, as well as for his literary attainments, until he had completed his 77th year, when he was seized with an affection in his bowels, which put an end to his life at Norwich, on his birth-day, the 19th of Nov. 1682. "Dr. Browne left several tracts in his closet, which, Whitefoot says, he defied for the press." Of these two collections have been published, one by Dr. Tenonson, in 1686; the other in 1732, by a nomenclater. "It is not on the praises of others, but on his own writings, that he is to depend for the eftem of posterity, of which he will not easily be deprived, while learning shall have any reverence among men; for there is no science in which he does not discover some skill; and scarce any kind of knowledge, profane or sacred, abstruse or elegant, which he does not appear to have cultivated with success. His style is vigorous, but rugged; learned, but pendent; deep, but obscure; it strikes, but does not please. His tropes are harsh, and his combinations uncouth. In defense, however, of his uncommon words and expressions, it should be considered, that his sentiments were uncommon, and that he was not content to express, in many words, that idea for which any language could supply a single term." Life of Sir Thomas Browne, by Dr. Samuel Johnson. Gen. Biog.

BROWE, Edward, son of Sir Thomas, was born at Norwich, in 1642, where he received the rudiments of his education. In 1657, when he was fifteen years of age, he was sent to Cambridge, and there continued his studies with diligence until 1665, when he took his degree of bachelor in medicine. He then went to Merton college in Oxford; and at the end of two years proceeded doctor. To perfect himself in natural philosophy, he went to the continent, and travelled over great part of Bohemia, Hungary, and Frulish, countries abounding with mineral productions, which he examined with particular care. On his return, he settled in London, and there published, in 1673, in 4to, the observations he had collected during his travels. This was so well received, as to induce him to revise, correct, and, at length,
in 1683, to enlarge it to two volumes in 4to. In London he became soon distinguished for his superior learning and abilities, and was made fellow of the Royal College of Physicians, and of the Royal Society, physician to Bartholomew’s hospital, and first physician to King Charles II. He assisted Dryden with a translation of the lives of Themistocles and Sertorius, toward his version of Plutarch’s lives, and is said to have given some communications to the Royal Society, on the subject of chemistry, in which we have the testimony of Mr. Boyle, he was more than commonly skilled. But his manners were so polite as his learning was various and profound, which made King Charles II., no ill judge of the characters of men, say, “He was as learned as any of the college, and as well bred as any at court.” He was, however, left out of the list of court physicians by James II., but was afterwards consulted by his successor, king William. In 1705, he was chosen president of the college of physicians, which office he continued to fill until 1728, the time of his death, which happened in the month of August in that year, at his seat at Northfleet, near Greenhithe, in Kent. Gen. Biog.

Browne, Simon, a learned minister, and writer amongst the Protestant dissenters, was born at Shepton-Mallet, in Somersetshire, about the year 1698, and received his academic education at Bridgewater under the instruction of the Rev. Mr. Moor. Distinguished by his talents and proficiency, he commenced the exercise of his ministry before he had attained the age of 20 years, and was settled for a consider- able time with a respectable congregation at Portmouth. During his residence in this town, he published, in 1766, his "Caveat against evil Company," and in 1709, "The true Character of the real Christian," in one volume 8vo. In 1716, he removed to London, and took the charge of the congregation in the Old Jewry, which was one of the most respectable and considerable in the kingdom. In 1720, he published a volume of "Hymns and Spiritual Songs, in Three Books," 12mo.; and in 1722, a volume of "Sermons." In his address to the congregation, prefixed to this volume, he avows it to have been his "design to promote pure, peaceable, and practical religion, without rage or bitterness against any, and to spread the spirit of Christianity, not that of a party." He adds, that "to raise the passions, without first settling the judgment right, is to carry the man into all the wildest and wanton freaks of enthusiasm."

"But, on the other hand, it will signify little to the ad- vancement of real religion to set the head right, if we cannot also warm and engage the heart. For though the affec- tions should not have the supreme direction, they must be the immediate springs of human action." Such were the principles and views with which he conducted his ministerial services, and which rendered the congregation at the Old Jewry so numerous and so respectable. The publication of his sermons was soon followed by "A Letter to the Rev. Mr. Thomas Reynolds," in which he reproaches these dif- senters, whole zeal for orthodoxy made them a target to compass their brethren, inconsistently with their principles as dissenters, to make very particular and explicit declarations of their belief in the doctrine of the Trinity, and in which he also pointed out the unreasonableness and inefficacy of requiring any subscription to human articles of faith.

Mr. Browne, having continued in the exercise of the pastoral office with great reputation on his own part, and very much to the satisfaction and improvement of his congregation for about 7 years, was visited, in 1725, with a very complicated and severe affliction, occasioned by the loss of his wife and an only son, which distressed him to such a degree, that he was for some time in a state bordering upon distraction; but his disorder at length subsided into a melancholy of a very extraordinary nature. He desisted from the duties of his function, and could not be prevailed upon to join in any act of worship, either public or private. He imagined to a God, by a singular influence of divine power, and in a gradual manner, annihilated in him the thinking substance, and utterly dissolved him of consciousness; that though he retained the human shape, and the faculty of speaking, in a manner that appeared to others rational, he had all the while no notion of what he said than a parrot. And, very comfortably with this, he looked upon himself no longer as a moral agent, a subject of reward or punishment." In this persuasion, he continued, with little variation, to the end of his life. He seemed to be much grieved, and to think his venality questioned, when he could not persuade others to think of him as he thought of himself. This incredulity, on the part of others, he sometimes represented as the judicial effect of the same divine power that had reduced him to his distressed state. For some time he was unwilling that any prayers should be made on his account; and he declined putting up any for himself, and refused even to say grace at table. Being once importuned to say grace at the table of a friend, he repeatedly excused himself; but the request being repeated, and the company kept standing, he manifested tokens of great diff- tress, and, after some inexpressible gestures and lamentation, expressed, with great fervour, this ejaculation: "Most merciful and Almighty God, let thy spirit, which moveth upon the face of the waters, when there was no light, descend upon me; that from this darkness there may rise up a man to prune thee!" On another occasion, when he was earnestly solicited to say grace, he at length complied, and expressed himself in the following manner: "Lord, I am nothing, I ask nothing, and I want nothing; but help these poor creatures, to those who are about to receive them!" It appears, however, that after his retirement into the country, and towards the close of his life, he was left uninclined to join in acts of devotion, and that he was even defirous that prayers should be put up for himself. At the commencement of his disorder, he felt so unhappy as to be frequently inclined to destroy himself; but afterwards became more calm and composed, and seemed to experience little or no terror of mind; and he was often not only rational and serious, but cheerful and pleasant in conversation, provided nothing was said relating to his own cafe. It is remarkable, that, whilst this strange phrenzy continued, his faculties appeared to be in every other respect in full vigour; his conceptions were clear, and his powers of reasoning strong; and he pursued his studies without intermission. His congregation rejoiced at him so much, that they delayed, for a considerable time, appointing a successor; but when he was reduced to the necessity of quitting the ministry, and his place was supplied by Mr. (afterwards Dr.) Chamber, Mr. Browne retired to his native town of Shepton-Mallet. He there amused himself with translating several parts of the ancient Greek and Latin poets into English verse. He afterwards composed several little pieces for the use of children, an English grammar and spelling book, an abstract of the Scripture history, and a collection of fables; the two last being in metre. He also amassed together, in a short compass, all the themes of the Latin and Greek tongues, and compiled a dictionary to each of these, in order to render the acquisition of those languages more easy and compendious. During the two last years of his life, he was employed in defending the truth of Christianity, against some of the attacks then made against it, and in recommending mutual candour to Christians of different sentiments con-
ending the doctrine of the Trinity. In 1732, he published, "A sober and charitable Disquisition concerning the importance of the Doctrine of the Trinity; particularly with regard to Worship, and the Doctrine of Satisfaction; endeavouring to show, that those in the different Schemes should bear with each other in their different Sentiments; nor separate Commonly, and call one another out of Christian Fellowship on this Account." He also published, in the same year, "A short Rehearsal to a ridiculous Infidel, in some Remarks on Mr. Walton's fifth Discourse on the Miracles of our Saviour; with a Preface concerning the Protection of such Writers by the Civil Powers," in which he proves, with great ability, that all such interpolations of the civil magistrate, to prevent attacks against Christianity, were extremely dishonourable to it. It was also in this year that he published his "Defence of the Religion of Nature, and of the Christian Revelation, &c." In all these treatises, written in his retirement, where he could derive little assistance from books, or the confidence of learned friends, he displays very extensive knowledge, and great powers of reasoning. To the last of the above-mentioned performances he had prefixed a very singular dedication to Queen Caroline, expressing the unhappy delusion under which he laboured, and which his friends, at the time of the publication, prudently suppressed. A copy of it, however, was preferred. It was published in the "Adventurer," No. 88, vol. iii. p. 155; and as it exhibits a very curious display of the state of his mind, we shall here subjoin it, for the gratification of those who have not immediate access to the other publications:

"Madam,

Of all the extraordinary things that have been tendered to your royal hands since your first happy arrival in Britain, it may be boldly said, what now befriends your majesty's acceptance is the chief.

Not in itself, indeed; it is a trifle unworthy your exalted rank, and what will hardly prove an entertaining amufement to one of your majesty's deep penetration, exact judgment, and fine taste.

But on account of the author, who is the first being of the kind, and yet without a name.

He was once a man; and of some little name; but of no worth, as his present unparalleled caufe makes but too manifest; for by the immediate hand of an avenging God, his very thinking substance has for more than seven years been continually walking away, till it is wholly perished out of him, if it be not utterly come to nothing. None, no not the least remembrance of its very ruins, remains, not the shadow of an idea is left, nor any fenfe that, so much as one single one, perfect or imperfect, whole or diminished, ever did appear to a mind within him, or was perceived by it.

Such a present from such a thing, however worthless in itself, may not be wholly unacceptable to your majesty, the author being such as history cannot parallel; and if the fact, which is real and no fiction, nor wrong conceit, obtains credit, it must be recorded as the most memorable and indeed astonishing event in the reign of George II. that a trait composed by such a thing was presented to the illustrious Caroline; his royal comfort needs not be added; fame, if I am not misinformed, will tell that with pleasure to all succeeding times.

He has been informed, that your majesty's piety is as genuine and eminent, as your excellent qualities are great and conspicuous. This can, indeed, be truly known to the great searcher of hearts only; he alone, who can look into them, can discern if they are sincere, and the main intention corresponds with the appearance; and your majesty cannot take it amiss, if such an author hints, that his secret approbation is of infinitely greater value than the commendation of men, who may be easily mistaken and are too apt to flatter their superiors.

But if he has been told the truth, such a case as his will certainly strike your majesty with all astonishment, and may raise that commiseration in your royal breast which he has in vain endeavoured to excite in those of his friends; who, by the most unreasonable and ill-founded conceit in the world, have imagined, that a thinking being could for seven years together live a stranger to its own powers, exercises, operations, and state, and to what the great God has been doing in it and to it.

If your majesty, in your most retired address to the king of kings, should think of so singular a case, you may, perhaps, make it your devout request, that the reign of your beloved sovereign and comfort may be renowned to all posterity by the recovery of a soul now in the utmost ruin, the restoration of one utterly lost at present amongst men.

And should this case affect your royal breast, you will recommend it to the piety and prayers of all the truly devout, who have the honour to be known to your majesty: many such doubtless there are; though courts are not usually the places where the devout retort, or where devotion reigns. And it is not improbable, that multitudes of the pious throughout the land may take a cafe to heart, that under your majesty's patronage comes thus recommended.

Could such a favour as this restoration be obtained from heaven by the prayers of your majesty, with what a transport of gratitude would the recovered being throw himself at your majesty's feet, and adoring the divine power and grace, profess himself,

"Madam,

Your majesty's most obliged
and dutifal fervant,
Simon Browne."

After his retirement into the country, the want of exercise, which he could not be persuaded to use, brought on a complication of disorders, and a mortification in his leg, which terminated his life at the close of the year 1732, in the 52d year of his age. His learning and knowledge were extensive. His theological sentiments were liberal, and he was a zealous advocate for freedom of inquiry. His piety and virtue were distinguished and exemplary; and he was animated by an ardent zeal for the interests of rational and practical religion. None who duly regard the talents he possessed and the public services of which he was capable, can forbear lamenting the malady under which he laboured. "His abilities," says one of his biographers, "made him respected, and his virtues rendered him beloved; but such was the peculiarity of his cafe, that he was at once an evidence of the dignity, and of the weakness of human nature." - Biog. Brit.

BROWNE, ISAAC HAWKINS, an ingenious and elegant poet of the last century, was born in 1706, at Burton-upon-Trent, of which parish his father was minister. Having received his grammatical education, first at Lichfield, and afterwards at Wellesminster-school, where he distinguished himself by his rapid proficiency, he was admitted, at the age of 16 years, into Trinity college, Cambridge; here he applied with singular affliliation, principally to classical literature, but without neglecting the appropriate studies of the place, or the various branches of mathematics, and the principles of the Newtonian philosophy; and such was the reputation which he
he acquired, that he was one of the first scholars elected upon
the foundation, established in 1724, by king George I. for
the study of modern history and languages, with a view of
qualifying young men for employment at court and in
foreign embassies. To this circumstance he alludes in his
poem on the death of the founder, which was the first
of his poetical productions, and much approved. About
the year 1727, he settled at Lincoln’s Inn, and published
the first of the law with a view to the profession of a barrister,
for which he was originally designed; but though he ac-
quired a considerable degree of knowledge, he never arrived
at any great eminence in the practice of the law, and relinqu-
ished it for a long time before his death, that he might
have the greater leisure for gratifying his inclination in lit-
erary pursuits. Poised of a fortune, which was adequate
to his desires, and which, by preferring the happy mean be-
tween extravagance and avarice, he neither diminished nor
increased, he was the less anxious about the emoluments of his
profession. Soon after his settlement at Lincoln’s Inn, he
addressed to his friend Mr. Highmore, the painter, a poem
on “Design and Beauty,” in which he adopted the elegant
ideas of the Platonick philosophy. Among other pieces,
poem to which the title was written, the imitation of
A. Philips was the production of his friend Dr. Hoadly,
chancellor of the diocese of Winchester.

In 1744, Mr. Browne married a lady, whose amiable
temper contributed very much to his domestic felicity; and
he was shown twice, viz. in this year, and again in 1748,
to serve in parliament for the borough of Wenloch, in Shrop-
shire. For this appointment he was indebted to the interell of
William Forrester, esq. who recommended him to the electors
from no other motive than the opinion he entertained of his ab-
ilities, and the confidence he had in his integrity and principles.
As he had obtained his seat without opposition or expense, and
without incurring obligation to any political party, he was
an independent member; and though he supported the ad-
ministration of Mr. Pelham, he never received any favour, nor
defied any employment. The love of his country, and an
ardent zeal for its constitution and liberties, formed a distin-
guishing part of his character. Although he poissed an
uncommon degree of eloquence in private conversation, he
was deterred, by a peculiar kind of delicacy and nervous
timidity, from ever appearing as a parliamentary speaker.
In 1754, he published his principal work, which was his
Latin poem “De Animi Immortalitate,” in 2 books, and
which unites the philosophical learning and elegance of
 Cicero, with the numbers, and much of the poetry of Lucre-
tius and Virgil. This poem was very much admired by the
best judges at the time of its publication, and its popularity
was so great, that several English translations of it soon
appeared. The best of these is that of Mr. Soane Jenyns, in
his “Miscellanies.” It was the author’s intention to have
added a third book, proposing to carry natural religion as
far as it would go, and in so doing, to lay the true foun-
dation of Christianity, of which he was a firm believer; but
of this book he only left an imperfect fragment. Having
passed through a life distilling mixed by private virtues, and
graced by a variety of accomplishments, Mr. Browne died in
1768, in the 52nd year of his age. His only son, Mr.
Hawkins Browne, to whose education he had paid particular
attention, and in which he had succeded to his wishes,
published an elegant edition of his poems, in large octavo,
in 1768. Several of them are also printed in Dodgley’s

Brown Bay, in the Manuge, is underfoold of horses of a
very dark chestnut colour.

Brown’s Bay, in Geography, lies on the south side of
Northfach harbour, near the call end of the island of Antigua
in the West Indies.

Brown’s Point, the north-west point of the peninsula
called Island Magee, in the county of Antrim, Ireland, at
the entrance into Loch-Larne. N. lat. 54° 51’ W. long.
5° 41’. Huddarth.—Alfo, a cape at the southern extremity
of the island of Tobago, in the West Indies. N. lat. 10°
10’. W. long. 60° 40’.

Brown’s Sound, lies on the north-west coast of North
America. N. lat. 55° 18’. W. long. 152° 20’.

The land on the caft side of this sound are tolerably level;
but on the west are mountains, which rife above the clouds, and exhibit
in winter a dreary aspect. The land abound with various
kinds of pines; the animals in its vicinity are deer, wolves,
sea-others, and fables; the fish are salmon, holluit, and a
species of cod, &c. In summer, ducks, geese, flags, &c.
are plentiful.

Brownsea, in Botony (named from Dr. Patrick
Wild. 1772. Lamarck. Bosc. Chas. monardifia end-
candia (deckeria, Schr.) Nat. Ord. Lomentaneae.—Lequini-
nae. Jul. Nat. Char. Calyx double; outer one-leaved, co-
ncal, with two unequal segments; inner longer, one-leaved,
funnel-shaped, with five divisions. Cor. petals five; claus
long, inserted within the tube of the inner calyx; bordera
ovate, obtuse. Stam. filaments ten or eleven, awl-shaped,
alternately shorter, attached to the tube of the outer calyx,
and united near the bottom; anthers oblong. Pift. germ
oblong, pointed, pedicelled, adhering to the tube of the inner
calyx; style awl-shaped; stigma blunt. Pericar-
py, leaque oblong, comprifed, bilocular, narrowed about
the partition; partition membraneous. Seds foli-
tary, ovate, comprifed, rather rugged, involved in fionous
fibres.

Cor. five-petalled.

Of f. Lamueas, Jacquin, &c. have considered the calyx as
single, and the corolla double; but from a careful con-
ideration of Lamarck’s figure of the coccus, we have been
induced to adopt the ideas of Juliffie, and the other French
botanists.

Sp. 1. B. coccinea. Linn. (Jacq. Amer. Pl. 121. Lamarck
Pl. 575. N° 1.) “Stamens the length of the corolla; pe-
duncles somewhat aggregate; branches smooth.” Wild.
A shrub from eight to ten feet high, branched. Leaves
abruptly winged, leaves of two or three pairs, ovate-lanceo-
late, sharply pointed, very entire, smooth, on shorted
petioles. Flowers lateral, large, scarlet, pendent, from fix to
ten together, on very short nearly united peduncles. Stame
num ten. A native of rocky woods, in South America.
2. B. grandiceps (Jacq. Collect. 3. Pl. 22. La Mareck Illif.
Pl. 575. No. 2.) “Stamens the length of the corolla;
flowers capitate-spiked; branches downy.” Wild. Foliakes
net-veined. Flowers scarlet, in a spike five inches long and
four broad. A native of mountainous woods in South
America. 3. B. Rafa de Mont (Bergius in Philof. Tran.
vol. 63. Pl. 8. p. 174. La Mareck Illif. Pl. 575. No. 3.)
“Stamens twice as long as the corolla; flowers in heads.”
Wild. A tree. Branches swelling into scattered knobs.
Branchlets, or common petioles, generally alternate, round,
smooth, rugged at the base, spreading. Leaves leathery,
about
about seven inches long, ovate-oblong, very entire, narrowing abruptly towards the end, smooth on both sides, with short petioles; the lower ones gradually diminishing; the lower ovate, a little heart-shaped at the base. Flowers collected into a head or spike, surrounded by a leafy involucre; buds or bracts ovate, rather sharp-pointed, somewhat membranaceous, concave, smooth, about two inches long, red, including one and sometimes two or three flowers, deciduous; the outer ones rounded, the inner smaller, and gradually becoming linear. Filaments constantly eleven. Gathered at Porto Bello in America, by a Mr. Pike, and sent to Burgos.

It does not appear that either of these three species has been cultivated in Europe.

Brownian Fanatics. See PAVOYA.

BROWFIELD, in Geography, a small settlement in York county, and district of Maine, in North America, which, together with Sourook, contains 259 inhabitants; so called in 1791 by Captain Gray in honour of Sam. Brown, clp. of Bollon.

BROWNIISTS, in Ecclesiastical History, a religious sect, which sprang out of the Puritans, towards the close of the 16th century, and derived their appellation from Robert Brown.

The revolt of Brown, already mentioned under his article, was far from being followed with the diffusion of the sect. On the contrary it daily increased; informing that Sir Walter Raleigh, in a speech, delivered in the house of commons, in 1595, computes no less than twenty thousand followers of it.

The occasion of the separation of the Brownists was not any fault they found with the faith, but only with the discipline and form of government of the other churches in England. They equally charged corruption on the episcopal form, and on that of the presbyterians, by confidories, clacks, and synods; nor would they join with any other reformed church, because they were not assailed the fancifulity and generation of the members that composéd it, and on account of the toleration of sinners, with whom they maintained it an impiety to communicate. They condemned the solemn celebration of marriages in the church, and the use of the ring in marriage, as making it a sacramental sign, which encouraged the popish hereby, that marriage is a sacrament; and maintained, that marriage being a political act, the confirmation thereof ought to come from the civil magistrate. They would not allow any children to be baptized, whose parents were not members of the church, or of such as did not take sufficient care of the education of those baptized before. They rejected all forms of prayer; and held, that the Lord's prayer was not to be recited as a prayer; being only given for a rule, or model, wherein all our prayers are to be formed. They held, that the civil life of the ministry destroyed the efficacy of the sacraments; and they objected against bibles in churches, because, as they pretended, they were consecrated to the service of idolatry. They urged also many other objections against the forms and ceremonies of the established church, which are recapitulated in a small 4to. pamphlet, published at Middleburgh in 1595, on occasion of a controversy between Francis Johnfon, a Brownist, and H. Jacob, about some of the tenets of the Brownists, and entitled "A Defence of the Churches and Ministry of England, against the Reasons and Objections of Mr. Francis Johnfon, and others of the Separation, commonly called Brownists; in two treatises, published especially for the benefit of those in these parts of the Low Countries."

The form of church government which they established was democratical. When a church was to be gathered, such as desired to be members of it made a confession of it; and signed a covenant, by which they obliged themselves to walk together in the order of the gospel. The whole power of admitting and excluding members, with the decision of all controversies, was lodged in the brotherhood. Their church-officers were chosen from among themselves, for preaching the word, and taking care of the poor, and separated to their several offices by calling, prayer, and imposition of hands of some of the brethren. But they did not allow the priesthood to be any distinct order, or to give any indeclinable character. As the vote of the brotherhood made a man a minister, and gave him authority to preach the word, and administer the sacraments among them; so the same power could discharge him from his office, and reduce him to a mere layman again. And as they maintained the bounds of a church to be no greater than what might accommodate those who could meet together in one place, and join in one communion; so the power of these officers was prescribed within the same limits. The minister or paftor of one church could not administer the Lord's supper to another, nor baptize the children of any but those of his own society. Any lay-brother was allowed the liberty of giving a word of exhortation to the people; and it was usual for some of them, after sermon, to ask questions, and reafon upon the doctrines that had been preached. In a word, every church on the "Brownists" model, is a body corporate, having full power to do every thing which the good of the society requires, without being accountable to any clergy, synod, convocation, or other jurisdiction whatever. It has been said, particularly by Dr. Fulke, that if we compare the principles of the Brownists with those of the ancient Donatists (which see), we shall find them to be the same; and that Brown derived them from the Puritans and Separatists. Brown, it is said, was preceded by Bolton, and followed by Barrow, a man of ingenuity and learning, but, like many others of his sect, of a warm spirit, who was condemned and executed, at the instigation of the bishops, very much to the disgrace of the reign of queen Elizabeth. Indeed the laws were executed with great severity on the Brownists; their books were prohibited by queen Elizabeth, and their persons imprisoned, and many of them were hanged. The ecclesiastical commission, and the star-chamber, in fine, distressed them to such a degree, that they resolved to quit their country. Accordingly, many families retired, and settled at Amsterdam, where they formed a church, and chose Mr. Johnson for their paftor; and after him, Mr. Ainsworth, author of the learned commentary on the Pentateuch. This church, notwithstanding its unhappy intestine divisions, flourished under a succession of pastors for above 100 years. Other Brownists erected churches after their own model, at Arnhem, Middleburgh, Leyden, and other places. See AINSWORTH. The last period that appeared as an active supportor of Brownism was Robinson, who somewhat softened the dogmas of Brown, and endeavoured to unite the discordant members of his sect. For some time the followers of Robinson fecured a middle course between the Brownists and the church of England, calling themselves "Semi-Separatists;" but at length they proceeded farther than the Brownists themselves. The Brownists, though ranged under different leaders, generally retained the name of their founder for several years after his death; for in the civil war in 1640, &e. we read of a mob of 2000 Brownists, who entered St. Paul's church in London, when the high-commission court was sitting, and making a great tumult, cited out "No Bishops," "No High Communion," &c.; and in 1642, king Charles, in a speech made at the head of his forces on their march towards Shrewbury, mentions the Brownists, and by a strange kind of juxta-connection them
and the Anabaptists with Athyllis. In the following year he propos'd to the parliament to frame a good bill for the better preservation of the book of common prayer from the scorn and violence of Brownills, Anabaptists, and other sectaries. At length, however, the appellation of Brownills was changed into that of Independents, a denomination affirmed by those, who adopted many of their tenets, and conformed to their discipline. At the present enlightened period, when the principles of toleration are understood and inculcated, and a liberal spirit pervades all ranks of the community, the severity with which the Brownills were treated, will find no advocates; nor will any one attempt to justify or palliate their errors and misdeeds. Their rigid and narrow sentiments in point of discipline; their denying the church of England to be a true church; their maintaining that her government was so wholly Papish and Antichristian, as to render all her ordinances and sacraments invalid; and their not only renouncing communion with her, but with all other reformed churches, excepting such as should be of their own model, are sufficient proofs that they did not come behind their predecessors in bigotry. Nor is it unlikely, but that if they had rifen to power, they would have exercized it in a very unjustifiable manner. Neal's History of the Puritans, vol. i. p. 341—260—365—386—436. Neal of New Eng. tom. i. p. 58. Robinson, Apologia jutla, &c. Brownillorum et Barowillorum, 12mo. 1619. Biog. Brit. Art. Robert Brown. See Independents.

BROWNSEA ISLAND, in Geography, an island within the harbour of Poole, in England, containing about 800 acres of land, where the Danes landed in 1015.

BROWNSTOWN HEAD, a cape on the south-coast of Ireland, which is the eastermost point of Tramore bay, on the narrow channel of Rinlithank. N. lat. 52° 7'. W. long. 7° 7'.

BROWNSVILLE, or RED STONE OLD FORT, a flourishing port-town of America, in the county of Fayette, and state of Pennsylvania, on the south-eastern bank of Monongahela river, between Dunlap and Red-Stone creeks, and next to Pittsburg: the most considerable town in the western part of the state. The town is regularly laid out, and contains about 100 houses, an Episcopal and Roman Catholic church, a brewery, and a distillery. It is connected with Bridge-port, a small village on the opposite side of Dunlap creek, by a bridge 260 feet long. Within a few miles of the town are 4 Friends' meeting-houses, and 24 grist, saw, oil, and fulling mills. The trade and emigration to Kentucky afford a lucrative employment to boat-builders; 100 boats of 20 tons each being built here annually. Byrd's fort formerly stood here, on the south side of the mouth of Red-Stone creek, in N. lat. 30° 58'. W. long. 81° 12' 32"; 37 miles S. from Pittsburg; 13 S. by E. from Washington; and 341 W. from Philadelphia.

BROWS, or EYE-BROWS, are two hairy arches above the orbits of the eyes, bunching out by means of some fat under the skin in this place.

That end next the nose is called the head, caput, the other the tail, cauda, of the eye-brow.

The use of the eye-brow is partly to break the rays of light descending from above, that they may not dart too strongly into the eyes; and partly to be a screen to the eyes from sweat, dust, or other matter descending from the fore-head.

BROWSE, the tops of the branches of trees, wherewith beasts feed. This is sometimes also called bronce, and bristle; probably from the French brout, which signifies the same.

Browse more properly denotes the food which deer find in young copes, continually springing anew.

BROWSE, brows of, or BROWSEING brows, a denomination including all of the fallow kind, as the deer, roe-huck, rupicapra, &c.

BROWSE-wood, the name with spray or brushwood.

BROWNING, Brouther, among the French Gardeners, signifies breaking off the tips of the thinner branches of trees, when too long in proportion to their strength.

BROYE, in Geography, a river of Switzerland, which rises in the canton of Fribourg, traverses lake Morat, and issuing from thence, and winding through a marshy plain, discharges itself into the lake of Neuchatel.

BROYLE, a harbour, cape, and settlement on the east side of the island of Newfoundland; 15 miles N.E. from the settlement of Aquafort, and 30 S.W. from St. John, the capital. N. lat. 47° 7'. W. long. 53° 30'.

BRUZZO, a town of Italy, in the principality of Piedmont, 25 miles N. of Turin.

BRUSIEKIE, BRUESTZ, or BRUSEK. See Brzesk.

BRUSEK, a town of Poland, and capital of a patinate of that name, in the province of Czajov; 80 miles W.N.W. of Warsaw. It is situated in a marshy plain, and surrounded with a wall, rampart, and moat. N. lat. 52° 31'. E. long. 19° 35'.

BRUA, a river of Iceland, flowing from the south to the north.

BRUANT, in Ornithology. See Emberiza Citrinella.

BRUANT de l'Isle de Bourbon. See Emberiza Boreonica.

BRUARIA TEBRARIAR. See TEBRAR.

BRUCUS, Henry, in Biography, son of Gerard, one of the magistrates of Allo, in Flanders, was born in that city, in the year 1531. Having passed through the usual school-education, in which he distinguished himself, he was sent to Rome, where he taught the mathematics for some years; then turning his mind to the study of medicine, he went to Boulogne, and having completed his studies, and taken his degree of doctor, he travelled, for his further improvement, over a great part of France. At Paris, he was introduced to the acquaintance of Adrian Tarsney and Peter Rames. Returning to Allo, he was made physician and principal magistrate of the city. As he had become a convert to Lutheranism, he readily accepted the invitation of John Albert, duke of Mecklenburgh, to settle at Rostock, where he might with safety profess his religion. He was there appointed professor in mathematics, and soon became popular also as a physician. After residing here 25 years, he was feiz'd with apoplexy, of which he died, December 318. 1593. His works are, "Propositiones de Morbo Gallico," 4to. 1569. He recommends beginning the cure with the decoction of guiacum; that not succeeding, to have recourse to mercurial intumescences. "De Scorbuto Propositiones, de quibus publice disputandum est," Rostlock, 1589, and again 1591, 8vo. They are printed with Eugenius, "Liber Observationum de Scorbuto," Lipso, 1614, and. He attributes the origin of the disease to feeding on dried and salted meat, and to living in a cold and damp atmosphere. "Epistola de variis Rhus et Argumentum medicis, cum Smeti Miscellaneis, Franc. 8vo. 1611. Hallier. Bib. Med. Eloy, Dict. Hist.

BRUCCA, in Geography, a town of Italy, in the kingdom of Naples, and Principato Citra; 13 miles W. of Policastro.

BRUCE, James, in Biography, was among the most celebrated of our modern travellers; and it appears at present, as if the general credit of his narrative would survive those prejudices, under which it has long laboured from the sup-
supposed improbability of certain facts altogether repugnant to European habits and opinions.

He was born at Kinnaird house, near Falkirk, in Scotland, in the year 1730. His defect was ancient and honourable; on the female side, to his own inexplicable gratification, connecting itself even with royalty. He was educated at Harrow, where his proficiency is said to have been highly creditable to his talents. He was afterwards removed to the university of Edinburgh, where he became a law student. Circumstances, not necessary to the elucidation of his public character, occasioned him to alter his views, and enter into partnership with a wine-merchant in London, where of his father. The estate of Kinnaird devolved to him, and he now began to entertain thoughts of appearing in public life. The first outlays of political employment ended in disappointment to the adventurer: but Lord Halifax procured him the confidenship at Algiers; a situation, which he hoped, would facilitate the project he already entertained, of penetrating the interior of Africa. He went to Algiers in 1761, where he studied the oriental languages with much diligence. He likewise prepared himself for his great expedition by what may comparatively be considered as home travels, of which he never published any account, through Atlas Minor, the islands of Rhodes and Cyprus, and other contiguous countries. Some of his drawings on this expedition are in the king's library at Kew. The orientalist traveller has characterized this present as "the most magnificent ever made in that line by a subject of his sovereign." He seems, indeed, to have had very just ideas of his sovereign's dignity, as well as very high ones of his own; for, when the bey of Cairo desired to see him, and, after a long conversation, ordered him a purse of sequins, covered with fruit and flowers, Mr. Bruce accepted of one orange only, but positively refused the money. The bey requested to know the reason. "I am," said Mr. Bruce, "an Englishman, and the servant of the greatest king in Europe: it is not the custom of my country to receive pecuniary gratuities from foreign princes without the approbation of our sovereign." The bey, being himself a sovereign, was far from being displeased with the elevated sentiment of the exculp.

It was in June, 1768, that he commenced his great journey to the sources of the Nile. He failed in Alexandria, and thence proceeded to Cairo, which he left in December of the same year, embarking on the Nile, and navigating as far as Syene. He passed through Arabia Deserta and Arabia Felix, making various excursions into the latter country. His embarkation on the Red Sea took place in 1769, and in September he arrived at a small island on the frontiers of Abyssinia. In November he gained an entrance into the kingdom, and arrived at Gondar, the capital, in 1770. The limits of this article will not allow us to enter on his adventures, multiform and oftentimes extraordinary as they were. For a topographical and historical account of Abyssinia, we must refer to that head in the present work. In November, 1770, he arrived at the sources of the Nile. A considerable degree of fulfion has been thrown on his whole narration by the triumph with which he congratulates himself on having made a discovery that had eluded all prior research, when it is now generally understood that the Portuguese Jesuits had been at those very fountains before him. If he was acquainted with that fact, his vanity in that instance certainly triumphed over his veracity; but it does not seem necéssary to follow, that the whole must be treated as a romance. After all, though the interest of every journey should be pointed by some determinate object, the reader will probably be much more engaged by the detail of circumstances, and the delineation of manners and customs, than in a dry controversy, whether or not the traveller did really discover the sources of the Nile. In this point of view, travelling may be compared with sporting: the excise is of much more value than the game.

On his return to Gondar, he found Abyssinia in a state of civil war. He engaged on the part of the reigning prince, whose favour was attended with the inconvenience of a positive refusal to part with him. The plea of ill health, however, procured his release, and he was permitted to set out in the beginning of 1772. The difficulties to which he was reduced in this journey were extreme. His camels all perished; and he was obliged to abandon his drawings, papers, and implements, which however he afterwards retrieved. He arrived at Cairo with much difficulty, and the loss of nearly all his fortune. He passed some time with Buffon in France, and returned to England in 1773.

He retired to Kinnaird for the recovery of his health, and for a long time neglected the gratification of public curiosity. His time was occupied by the circumstances attending a second marriage, the improvement of the walls on his paternal estate, and the formation of a museum, enriched with Arabic and Abyssinian manuscripts, and various curiosities both natural and artificial. His work appeared in 1790, in 5 volumes 4to. It was eagerly read; but an air of vanity and arrogance pervading the style, seems to have inspired the public with a disposition to severe criticism, and incredulity, which the confirmation of many facts by subsequent travellers has already in some measure checked. Mr. Bruce died in April, 1794, in consequence of a fall in conducting some company down stairs, which at the time did not threaten such fatal consequences.

Mr. Bruce's figure was above the common size; his limbs athletic, but well-proportioned; his complexion sanguine; his countenance merry and good-tempered; and his manners easy and polite. The whole outward man was such as to announce a character well calculated to contend with the many difficulties and trying occasions, which so extraordinary a journey could not but have thrown in his way. His internal characters, the features of his understanding and disposition, seem in a great measure to have corresponded with these outward lineaments. As a country-gentleman, though not without a tincture of haughtiness, he exhibited the elegance of a man of fashion, and the hospitality of a Briton. Brome's Island, in Geography, an island in the Red Sea, on the coast of Abyssinia. N. lat. 23° 42'. E. long. 35° 30'. The south of it is high and rocky, and the north low and terminating in a sloping bank. Bruce gave it his own name. Bruce Hill, a considerable mountain in the south-western part of the county of Cavan, in Ireland, from which the river Erne takes its rise; 11 miles S.S.W. of Cavan.

with which he spoke of monks and priests, he left Florence in 1529, and repaired to Venice, where, in 1532, he published his Italian version of the Bible, which was dedicated to Francis I., King of France. This version was accompanied with an ample commentary in 7 volumes folio; containing some structures, which excited a suspicion, that the author had imitated some of the principles of the reformers. Although he pretended that he had translated directly from the original, Father Simon demonstrated that he had little knowledge of the Hebrew, and that he had generally used the Latin version of Pagninus. His work was condemned by the Catholics, but approved and encouraged by the Reformers; several editions of it were printed, the last of which is that of Venice in 1546-48; 3 vols. folio. Brucioli lived at Venice, without molestation; and employed himself in a variety of literary works. Besides Italian translations of Plato's natural history, and of several pieces of Ariostoe and Cicero, and editions, with notes, of Petrarah and Boccaccio, he published a folio volume of "Dialogues." Artzone writing to him in 1542, says, "Are you not satisfied with having composed more volumes than you are years old; and with having spread your name through the whole world?" He was still living in 1554. Nouv. Dict. Hist. Gen. Biog.

BRUCK, in Geography, a town of Germany, in the circle of Franconia, and principality of Cumbach, seated on the Redritz.

BRUCK, or BRUG, a town of Germany, in the archduchy of Austria, situate on the river Leyta. In the environs of this town asparagus grows spontaneously without culture. It is distant 25 miles E. from Baden, and 20 E. S. W. from Vienna.

BRUCK, a town of Germany, in the circle of Upper Saxony, and electorate of Saxony; 10 miles S.W. of Potsdam.

BRUCK, or Pruck, a town of Germany, in the circle of Bavaria and Upper Palatinate; 18 miles N. N. W. of Regensburg. See Pruck.

BRUCKENAU, a town of Germany, in the circle of the Upper Rhine, and bishopric of Freiberg; 14 miles S. of Fulda.

BRUCKER, JOHN-JAMES, in Biography, a learned Lutheran clergyman, was born Jan. 22, 1660, at Augsburg, and educated at Jena, where, in 1718, he took his degree of master of arts. In 1725 he returned to the place of his nativity; in 1724 he became rector at Kulinbergen; and in 1731, he was chosen a member of the Academy of Sciences at Berlin. Among his labors he was afterwards pastor of St. Ulrich's church, and lower minister; and died there in 1790. Among his works are the following, viz. "Tenienten Introduction in Hiliorum Doctrinae de Ideis," Jena, 1719, 4to.; "Mediationes Philosophicae de falsa virtute exemplo Alexander magus illustratis," ibid. 1720, 4to.; "Hiliorum Philosophicae Doctrinae de Ideis," Angil.; 1723, 8vo.; "De Vita et Scriptis Cl. Etranger," ibid. 1724, 8vo.; "Otium Vindicium, sive Delemetum Hiliorum-philoophicaeornm Triga," ibid. 1721, 8vo.; "Hiliorum Vitae Adolphorum Oceonum," Lip. 1734, 4to.; "Differtatio Epipol. de Vita Hier. Wolflin," ibid. 1739, 4to.; "De Hocelicrri Meritis in Rem Literataem," ibid. 1739, 4to.; "Hiliorum Historicae Philosophiae," ibid. 1727, 8vo. and 1756, 4to. But the most important work, to which he owes his chief reputation, is his "Historia Critica Philosophiae," published at Leipzic between the years 1742 and 1744, in four large volumes 4to. and reprinted at the same place in 1757, with large improvements and additions, in 6 vols. 4to. To Dr. Enfield the English reader is indebted for an excellent abridged translation of this comprehensive and learned work, published in
BRUCEL, in Geography, a town of Germany, in the circle of Upper Saxon, and county of Ruse; 1 miles W. N. W. of Geira.

BRUCKMANN, Francis-Ernest, in Biography, was born at Helmut, in 1157, and, having completed his studies, was created doctor in medicine, at the university there, in the year 1721. As his noble inclined him to botany, he travelled over Bohemia, Austria, and a great part of Germany, examining and collecting plants indigenous to those countries, and other natural productions. In return for his communications to the Academia Nat. Curiosis, and of Berlin; he was made corresponding member of those societies. Having finished his travels, he settled at Brunswick, where he continued in request to the time of his death, March 24th, 1753. When young, and before he had taken the degree of doctor, he published, "Specimen Botanicum, exhibens fungos subterraneos, vulgo tubera terrena dictos," Helmit. 1733, 4to, with engravings. He considered the black spots on the bark as seeds. In 1727, "Opuscula Medicina botanica," 4to. Brunswick. In this he treats of the medical qualities of various vegetable productions, among others of coffee, the use of which he condemns. "Epistola Itineraria," containing his observations on vegetable and other natural productions, collected during his travels. The epistles are 320 in number, the first century was published in 1742; the two last in 1749, 4to. They contain a great body of useful information. The titles of a few of the epistles follow, for the rest, or such of them as are most curious, consult Haller's Bib. Botan.


BRUCKEL, in Geography, a town of Germany, in the circle of the Upper Rhine, and county of Hannu Munzenberg; 2 miles N. of Hannu.

BRUCERII, in Ancient Geography, a people of Germany, placed by most geographers next to the Frisii, between the Amalphi, now the Ems, and the lake Fluvius, now the Zuyder Zee. They were powerful and warlike; but before the time when Tacitus wrote, (see Germ. 37.) that is, before Trajan's second confuconf, they had been exirigated by their neighbours, who had confi4ed against them; and their place was occupied by the Chernavi and Angri-vari. They were conquered by Drufus in a naval fight, on occasion of his first German campaign; again by The-erus in the 4th year of the Christian era; and afterwards, A. D. 14 and 15, by Germanicus. In the year 60 they joined Civilis in his attack upon the Romans. Towards the commencement of the 4th century, Constantine, having passed the Rhine, entered their country and laid it waste with fire and sword. Their villages were burnt, their cattle slaughtered, their men and women massacred, and those that escaped the sword, and were made prisoners, met with a still more cruel fate. As he judged them incapable of ever performing any really useful service, on account of their perfidy and invincible ferocity, they were condemned to the same punishment as the kings of the Franks, whom he had vanquished, and delivered to wild beasts, whole savage disposition they imitated.

BRUDUS, Emanuel, in Biography, son of the physician Dianhus, of Paris, practised medicine for some years in England. He published, in 1544, at Venice, "De Ratione Victis in singulis Februari ad Anglos," 8vo. It is a thick and bulky volume, and has been several times reprinted, once by Gernier, in 1555. He appears to have read the old Greek and Arabian writers with attention, and to have drawn his doctrine principally from them. Too slender a diet should not be given to the English in fevers, but care should be taken to keep up the strength of the patients. This should be done in all fevers, of which he describes the different stages, with the treatment in each. He never indulges in the vulgar, but some good practical rules may be deduced. "Dialogus circa quidam Questionis in Medicina," 4to, without date. Haller. Bib. Med.

BRUEGEL, in Geography, a town of Upper Guelderland; 10 miles S. E. of Venlo.

BRUEHL, Walter, or Brault, in Biography, a German physician, published in 1579, Antw. fol. "Praxis Medica, Theorica et Empirica, familiarissima, in qua morborum internorum cognitio, et curatio traditur." The work, though little noticed now, was in much estimation, as appears by its having passed through eight editions, the last printed at Venice in 1603, 8vo. It is dedicated to the earl of Huntington, which makes it probable the author had been in this country. Haller. Bib. Med. Prat. Eoy. Diet. Hift.

BRUEL, in Geography, a town of Germany, in the circle of Lower Saxon, and duchy of Mecklenburg; 12 miles N. E. of Schwerin.

BRUEL, Bragel, or Bragel, a town of Germany, in the circle of the Lower Rhine, and electorate of Cologne; 6 miles S. of Cologne.

BRUEYRE, a town of France, in the department of the Cher, and district of St. Amand, situated on the Cher; 1½ league N. W. of St. Amand.

BRUEYS, David-Augustin, in Biography, a French writer, was born of a protestant family, at Aix, in 1642, and educated for the bar; but his inclination to controversial theology led him to abandon the profession of an advocate; and, in 1662, he published an answer to bishop Boffu's exposition of the doctrine of the church. The bishop, however, converted him to the catholic faith; and after he had buried his wife, he entered into the ecclesiastical state, and distinguished himself as the champion of popery against Juren, Lefant, and other protestant divines. Of the sincerity of his conversion his subsequent conduct afforded some ground of suspicion; as he diverted his attention from theology and devoted it to dramatic subjects. Accordingly he composed several pieces for the stage, some of which were written in conjunction with his friend Palaprat. Of these the most celebrated are the comedy of "Le Grandeur," (the Grumble,) which Voltaire prefers to all the lighter pieces of Molier, and a revived ancient piece, called "L'Avocat Patelin," distinguished for its humorous simplicity. At a more advanced age he again renewed theological controversy, and wrote "The History of Fanaticism in our own times," relating to the state of religion in the

Cevennes.
BRUGES, John or, in Biography. See Evck.
BRUGES, in Geography, a town of France, in the department of the Lower Pyrenees, and district of Pan; 4 leagues S. of Pan.

Bruges, once a commercial, flourishing, and populous city of the Austrian Netherlands, and a bishop's see, and now, since the French revolution, the capital of a district, in the department of the Lys, which is divided into five parts: the first part containing, according to Thunnae's statistical view of France, 19,058 inhabitants, its canton 1,54,144, and its territory comprehending 2073 kilometres, and five communes: the second part includes 70,194, and its canton 13,022 inhabitants; its territory comprehends 70 kilomètres, and 4 communes: the third part contains 75,322, and its canton 13,896 inhabitants; its territory includes 105 kilomètres, and 7 communes; the fourth part contains 67,496, and its canton 14,320 inhabitants; its territory comprehends 107 kilomètres, and 11 communes; and the fifth part contains 28,821, and its canton 11,974 inhabitants; its territory includes 147 kilomètres, and 12 communes. According to this statement the population of Bruges amounts to 337,323 persons; but others, by a more moderate computation, diminish the number to 235,000. Bruges is about a league and a half in circumference; is advantageously situated for commerce, about 8 miles from the sea; and communicates, by means of navigable canals, with Ghent, Oitend, Nieuport, Furnes, Damme, Slayes, &c. As the adjacent country is nearly level, the water about it has no perceptible current; but it is easily changed in half an hour's time, by opening the sluces, and discharging it into the sea. According to Guiccardini, this city was in the 8th. year of the year 750; and took its name from a bridge called "Bruggock," in its vicinity, between Oudemage and Rademage or Ardembourg, which are two maritime towns, used to have had considerable commerce in this country, till they were ruined by the Danes or Normans. Out of the ruins of Oudemage was built the original town or castle of Bruges. In the 13th and 14th centuries, Bruges was the greatest emporium in all Europe. Navigation was then so imperfect, that a voyage between the Baltic and the Mediterranean could not be performed in one summer; and, therefore, it became necessary to establish a magazine or fochouse about midway between the commercial cities in the North and those in Italy. Bruges was selected as the most convenient station; and this choice of course introduced a vast wealth into the Low Countries. Bruges was at once the staple for English wool; for the woollen and linen manufactures of the Netherlands; for the naval stores, and other bulky commodities of the North; and for the Indian commodities, as well as domestic productions, imported by the Italian states. The extent of its commerce in Indian goods, with Venice alone, appears from one fact: In the year 1518, five Venetian galleasses laden with Indian commodities arrived at Bruges, in order to dispose of their cargoes at the fair. These galleasses were vessels of considerable bur-

den. The citizens of Bruges, enriched by its commerce, displayed in their dwellings, their buildings, and their mode of living, such magnificence as even to mortify the pride and excite the envy of royalty. To this purpose we may mention a singular instance. In 1301, Joanna of Navarre, the wife of Philip le Bel, king of France, having been some days in Bruges, was so much struck with the grandeur and wealth of that city, and particularly with the splendid appearance of the wives of the citizens, that she was moved (says Guiccardini, De rer. de Palsi Baffi, p. 408.) by female envy to exclaim with indignation, "I thought that I had been the only queen here, but I find there are many hundred more." However, in the year 1482, this city, became rich and also infidel, in consequence of its extensive commerce, had the authority to fix on Maximillian, king of the Romans, and to kill some of his minions in his presence. This violent inquiet brought about its ruin; for the emperor Frederick, father of Maximillian, took occasion to block up Sluys, its proper haven, by the affiance of Antwerp and Amsterdam, which had been for some time envies of its engraving the whole trade of the Low Countries; upon which the commerce removed from Bruges to Dort, and from thence soon after to Antwerp. According to Thunnae, Guiccardini, it removed directly to Antwerp, from which it went to Bruges in opulence and splendour. "To this time (says bishop Huet, in his "Memoirs of the Dutch trade") there was scarce a nation in Europe, how incalculable a power, that had not its proper merchant magazine or store-house at Bruges, and a company or factory there residing; as the English, French, Scots, Catalans, Portuguese, theof of Arragon, Catalonia, Biscay, Venice, Florence, Genoa, Lucca, Milan, Germany, Denmark, Sweden, and all the Hanse towns." The penurious, De Wit, in his "Interbel of Holland," accounts in a somewhat different manner for the losses of its commerce, which Bruges sustained. He says, that the fisheries and manufactures of the Netherlands increased more and more, together with the trade by sea to Bruges, which halted till the year 1482, when Hanlers had wars with the archduke Maximillian, about the guardianship of his son and his dominions, which continued for ten years. In the mean time, the Sea-port of Bruges, being most disturbed, those of Antwerp and Amsterdam, in order to draw the trade to their own cities, afforded the archduke in his unbridled tyranny and barbarous destruction of that country, and thereby regained his favour, and attained their own ends. Notwithstanding the decline of its commerce, Bruges, having a communication with the sea from Oitend, by means of a navigable canal, is still a place of considerable trade; and has various manufactures of broad fays, baize, and other woollen. 

Bruges was formerly in the diocese of Tournay; but in 1559, it was erected into a bishopric, by Philip II. King of Spain, subject to the archbishop of Malines. In 1430, Philip the good, duke of Burgundy, instituted at Bruges the order of the golden fleece. The parts about the city which belong to this order are called "Fraye of Bruges," and contain 37 villages, and accordingly enjoy certain immunities. The fiefs of Bruges, which are about 260 in number, are spacious, and the houses, though old, well built; it has seven gates, and six grand markets; but, having neither fountain nor river, the city is supplied with water from the rivers Lys and Scheldt, conveyed from Ghent by means of pipes. The principal buildings are the town-house, built in the Gothic manner, and situate in the large square called the Burg, the halls, the mint, &c. At the end of the square, called the grand market, is a fine steepel, 

BRUGES, in Ichthyology. See Squalus Maximus, great shark.
supported by four pillars, which is one of the most beautiful of the kind in Europe, 533 steps in height, and furnished with bells and chimes, which play a different tune every quarter of an hour. On the side of the great square is an edifice serving as a magazine for cloth, built over a canal, and so finished by pillars, that small vessels may pass under it, in order to cross the city from the canal of Olenst to that of Ghent. The square in which the Wednesday's market is kept, contains several walks between rows of trees, and a new guard-house in the middle. At Bruges there are several fine churches. The cathedral is dedicated to St. Donat, but the church of Notre Dame is the most beautiful, and its spire serves as a fea mark for the ships that are coming to Olenst; within it are two tombs of gilt copper, of extraordinary magnificence, and the rich veillments of Thomas à Becket, adorned with precious stones. In the high altar in the cathedral is a picture by Segers, viz. "The Adoration of the Magi," which is considered by Sir Joshua Reynolds as one of the best of that painter's works; and in the chancel is a picture by Jean Van Eyck, of the "Virgin and Child with St. George, and the other saints." Besides the cathedral and two collegiate churches, there are five parish churches, 14 chapels, and 12 convents for men and women. Bruges has also several alm-houses and schools, and it is distinguished by the provision which it affords for widows and orphans. There are still remaining 17 palaces or houses, that were the ancient habitations of so many confuls of trade. The magnificence of Bruges is composed of two burgo-masters, 12 chevins, 12 councilors, 6 penitories, and two preachers. This city, which is but indifferently fortified, was unsuccessfoully bombarded by the Dutch, July 4, 1704; in 1706 it submitted to the allies, after the battle of Ramilies; in 1708 it was invaded by the French and obliged to surrender; in 1709 the allies re-entered it, by virtue of a capitulation signed on the capture of Ghent, Dec. 30, 1709; and on the 24th of July, 1793, the magistrates opened the gates to the French troops, and signed a formal submission to the French republic. Bruges is 8 miles E. of Olenst, 24 N.W. of Ghent, and 46 W. of Antwerp. N. lat. 51° 15'. E. long. 3° 15'.

BRUGG, or BRUCK, a town of Switzerland, in the canton of Argow, seated on the river Aar. It formerly belonged to the counts of Hapburg, of the house of Austria; the inhabitants embraced the protestant religion in 1529. N. lat. 47° 23'. E. long. 8° 5'.

BRUGGEN, a town of Germany, in the circle of Lower Saxony, and bishopric of Hildesheim, on the east side of the Leine; 2 leagues S.W. from Hildesheim.

BRUGgen, or Broot, a town of Germany, in the circle of Westphalia, and duchy of Juliers, on the Schwalm; 6 miles N. E. of Kremund. On the 2d of March, 1793, a battle was fought near this town, between the Prussians, under the command of prince Frederick of Brunswick, and the French, in which the latter were defeated, with the loss of 1200 killed and 700 prisoners.

BRUGHAN, a river of North Wales, which runs into the Severn, about 2 miles above Llanidloes, in the county of Montgomery.

BRUGIAT, a town of France, in the department of the Allier, and district of Gannat; 2 1/2 leagues E. of Gannat.

BRUGNETTO, a town of Genoa, situate at the foot of the Apennines; the site of a bishop, suffragan of Genoa; 33 miles E. S.E. of Genoa.

BRUGIVIERA, in Botany, (named in honour of Brugiere, the well-known French botanist,) a new genus, formed by La Marek, for a plant placed by Linnaeus in the genus Rhizophora, to which it is closely allied, but differs in having a polygonous fruit. La Marek Illust. Pl. 397. Boc. Clas. dodendria monoepigynia. Nat. Ord. Haloracea. Cappifolia. Jull. Gen. Char. Col. one-leaved, open, permanent; segments ten or twelve, linear, acuminate, keeled without, channelled within, a little fleshy. Cor. petals ten or twelve, oblong, bifid at the summit, pointed, folded together lengthways so as to appear in some degree bivalved, ciliated, villous at the base, shorter than the segments of the calyx and alternating with them. Stam. from twenty to twenty-two; filaments attached by pairs to the base of each petal, and enclosed within its fold; anthers upright, oblong. Pyl. germ inferior, fyle triangular; stigmas three. Fruit, constricting at first of a capsule, which is semi-inferior, terminated by the permanent style, one-celled, one-seeded, formed in some degree out of the calyx: but when the seed contained in the capsule is come to maturity, its summit is prolonged into a nearly cylindrical body, a little angular, furrowed, with a blunt point, very smooth and shining, and from four or five inches to a foot long. This appearance is no other than the germination of the seed; and the prolongation is the radicle of the embryo plant, which having by its weight detached the seed from the capsule, fixes itself in the mud, into which it has fallen perpendicularly, in consequence of the capsule's having changed its original upright for a pendent position. This mode of germination is common also to all the species of the true Rhizophora. Eff. Calyx inferior, divided into ten or twelve segments; petals ten or twelve, doubled, having the flaments; flaments from twenty to twenty-two. Style, one; capsule one-seeded.

Spec. B. gymnornicha, "Leaves ovate-lanceolate, root above ground." Linn.; a specific character formed to distinguish it from the different species of Rhizophora. A tree about ten or twelve feet high. Trunk commonly crooked, covered with a thick, brown, rugged, cracked bark. Branches very numerous, extending in all directions, the lower ones throwing out naked flexible shoots, which strike into the earth, and, like the fig-tree of Bengal, produce new trunks, so that it is often difficult to determine the parent stock; the whole forming by the intermixture of the branches an impenetrable thicket. Leaves opposite, decussate, ovate, acuminate, smooth, very entire, on short petioles. Flowers solitary, axillary or lateral, greenish yellow, pendent. A native of the banks of salt-water rivers, and on the sea-shore in the East Indies. See Ray. Hill. Plant. and Savigny in Encyclopedic Methodique, under Palktuvier.

BRUGUIERE, JOHN, in Biography, a physician of Montpellier, founded a college for the maintenance and instruction of two young men, to be brought up to the practice of medicine, and dying without children in 1452, he left 800 ecus d'or, to purchase a piece of land, the rent of which was to be appropriated to the support of his institution, to which he also left his library. Aurore. Mem. pour servir a l'Huil de la faculte de Med. de Montp.

BRUGUIERE, La, in Geography, a town of France, in the department of the Tarn, and chief place of a canton, in the district of Caffres, 1 1/2 leagues S. of Caffres; the place contains 3929, and the canton 6856 inhabitants; the territory comprehends 137 1/2 kilometres and 7 communes.

BRUGIÈRES, a town of France, in the department of the Upper Garonne, and chief place of a canton, in the district of Toulouse; 3 leagues N. of Toulouse.

BRUHESIUS, Peter, or Peter van Bruszen, in Biography, a physician of Brabant, born the early part of the
the 16th century, was so much esteemed as to be made physician to Eleonora of Auloria, sister to the emperor Charles V., while she was resident in the Low Countries. He afterwards settled in Bruges, and was appointed pen- 

sionary physician to that city. The time of his death is not 

known, but his memory was honoured by an epitaph, 

written in 1571, by the poet Nicolaius, who speaks 

highly of his professional abilities. He published, "De 

Thermarum Aquasgraneum Vitibus, Caufa, et legitimo 

Ufus, Epitole duce," 1550 and 1555. Antwerp, 12mo. 

"De Ratione medendi Morbi Articularis, 1592, in Henry 

Garret's Consilia Variorum de Arthritide." "De Ufus et 

Ratione Cauterorum," in the same collection. He was 

a believer in judicial astrology, and published "An Alma- 

nae," at Bruges, in which he sets down the precise times, 
or circumstances, under which bleeding, purging, and other 
operations might be safely undergone. Eloy Diet. Hist.

BRUIER, John James, born at Beauvais, the end 
of the 17th century, studied medicine at Angers, where 

he was admitted to the degree of doctor; he afterwards settled 
in Paris, and acquired considerable reputation by his practice, 
and by his writings. He died October 24th, 1756. In 
1733, he published a translation of Deventer's Treatise on 
Midwifery, under the title of "Observations sur le Manuel 
de l'Accouchement," 4to. Paris, and afterwards several of 
Hoffman's works; his "Medicain Politicus," 12mo. 
"Medicina rationalis," in 9 volumes, his treatise on fevers, 
3 vols. 12mo. "Le Caprice d'Imagination," &c. But the 
works by which he is most known, were his warnings 
against burying persons suppos'd to be dead, too early, "Dis- 
fertation fur l'Incertitude des Signes de la Mort, et l'Abus des 
He was at the pangs of collecting histories of persons who 
had revived, after being suppos'd to be dead, some of whom 
had been buried. Bodies ought not to be interred, he says, 
until putrefaction has commenced. "Memoire sur la 
Necesite d'un Reglement general au Sujet des Enterre- 
ments," 1745. No one should be buried until the fourth 
day from their dying. "Addition aux memoires," &c. 
adding to the number of examples of persons who had been 
buried alive, or had revived after being interred. These 
works have passed through numerous editions, and have 
been translated into every modern European language, and 
have doubtless been the means of preserving many lives. 
M. de la Soriniere, on his being received into the Royal 
Academy at Angers, read a copy of verses he had com- 
posed on the subject, beginning

Bruhier, ton immortel ouvrage, 
Ouvre les yeux a bien des gens, 
Sur l'abus, la cruel ufage, 
D'enterre les morts, tout vivans, &c.


BRUIL, a town of France, in the department of the 
Rer, and chief place of a canton, in the district of Cologne. 
The place contains 1933, and the canton 14,576 inhabi-
tants; and the territory includes 31 communes.

BRuja, Buff, in Ornithology. See Lanius Mada-
gascariensis, Gmel.

BRUIN, John de, in Biography, professor of natural 
philosophy and mathematics at Utrecht, was born at 
Gorem in 1620; and having pursued a course of philo-
sophy at Leyden, and prosecuted his studies at Bois-le-Duc, 
and Utrecht, he removed to Leyden, where he taught mathe-

matics. He afterwards became professor at Utrecht, and 
besides his official duties, made dissections in private and 
read lectures on Grotius's treatise, "De Juris Belli et Pacis." 
He was distinguished by his attachment to experimental 

philosophy and by his observations in astronomy. As an 
author, he published dissertations, "De Vi Altrice," "De 
Corporum Gravitate et Levitata," "De Cognitione Dignat 
naturali," "De Lucis Caufa et Origine," &c. He also 
maintained the Cartesian hypothesis in a dispute with Isaac 
Vossius, and wrote an apology for against a divine named 
Yoggell. In 1655, he married the sister of the wife of 
Daniel Elzevir, the famous bookseller of Amsterdam, and 
died in 1675.

BRUIN, John de, born at Amsterdam in 1681, was early 
initiated into the knowledge of surgery; but in 1700, de-
termining to confine himself to the practice of midwifery, 
he entered as a pupil to Roohuyzen, to learn of him 
the art of delivery in cases of difficulty, by means of an 
instrument he had invented, and which obtained the name of 
Roohuyzen's lever. Aided with this instrument, he was 
enabled to relieve and bring down the head of a fetus, 
that was firmly fixed in the pelvis, without injury to the 
mother, or the child. As this instrument, and the manner 
of using it, were kept secret by Roohuyzen, De Bruin 
paid a stipulated price for obtaining the knowledge of it; 
and became so skillful in using it, that he was consulted in 
all cases of difficulty. On his death, which happened 
January 23d, 1753, the secret was purchased by De Vil- 
cher, and Van de Pool, physicians at Amsterdam, and 
through them communicated to the world. Eloy Diet. Hist.

BRUISE, in Surgery. See Contusion.

BRUISER, in Mechanics, the name of a concave tool 
used for grinding and polishing the specula of telescopes. 
It is made of brass, about a quarter of an inch thick, and 
hammered as near to the gage as possible. It is timed on 
the convex side, and made equally broad at bottom and top. 
This serves to reduce the figure of the lenses, when it is 
too convex; and to rub down any gritty matter that hap-
ens to be mixed with the putty, before the speculum is 
applied to the polister. See Phil. Trans. vol. lxvii. part i. 
art. 16. and Smith's Optics, book iii. chap. 2.

BRUISING, in Pharmacy, signifies the operation of 
breaking or pounding a thing coarsely, or by halves; 
frequently practiced on roots, woods, and other hard bodies, 
to make them yield their juice or virtue more freely than they 
would do whole.

BRUT, Fr., Noise. The editors of the New French 
Encyclopedic, as well as Rouffeau, have honoured this 
sworn foe to music, and percursor of refined cars, with 
a long article. Rouffeau defines noise in general to be 
every motion of the air which strikes the tympanum, and is 
perceptible by the auricular organ; but, in music, noise is 
opposed to sound, and extends to every sensation of the 
ear which is not honorous and appreciable. To explain the 
difference musically, we may suppose that every musical sound 
is accompanied by its harmonics, and that noise having no 
Such coincident vibrations, has no determined tone or type 
in the harmonical system. Noise may, perhaps, be of the 
same nature as sound, but being produced by violence, and 
the aggregate of a confused multitude of different sounds 
heard at once, they mutually counteract the undulations of 
each other. All clastic bodies seem honorous in proportion 
as their matter is homogeneous, as the degree of cohesion is 
more equal throughout, and its body not divided into nu-

morous small maffes, which being of different solidity, con-
sequently give birth to warring sounds. Why should not 
noise produce sound, since it can excite it? For every vio-

lent noise makes the string of a harpichord sound, nor, in-

deed, any single string as a musical tone does, but the 
whole instrument at once; because no one finds its unison or harmo-
The brumalia were instituted by Romulus, who used, during this time, to entertain the senate. During this feast indications were taken of the felicity of the remaining part of winter.

The Brumalia were also called Hismalia.

BRUMALIS, in Ornithology, a species of Emberiza that inhabits the Tyrolean country, called by Latham the Brumal Bunting. Seopolis thus describes this little bird: body beneath, the front, and region of the eyes citron colour: hind head and neck cinereous.—Obi. The back is yellow brown, vent citron, thighs whitish, quill feathers brown, having the exterior margin citron.

BRUMATA, in Entomology, a species of Phalaena (Geometrida) the wings of which are yellowish, with a black streak, and a paler one behind. The female is apterous, or without wings, and spotted with black. Lar. Found on apple-trees.

BRUMATH, in Geography, a town of France, in the department of the Lower Rhine, and chief place of a canton, in the district of Strauburg, 3 leagues N. of Strauburg. The town contains 2671, and the canton 12,957 inhabitants; the territory comprehends 1824 kilometres, and 21 communes.

BRUMEL, Anthony, the most ancient contrapuntist of the French school of whose compositions we have been able to find any remain, was contemporary with Juquin, and scholar of Okenheim; and though he is not likely to be inquired after by the present age, he was so respected in his day, that his name should not be confounded to the gulf of oblivion while a vestige of his works remains; and several thrill sufficed in Glareanus, and the Museum collection. The fame of the great musicians of antiquity is so established in books, that, though not a single relic of his works has been extant these two thousand years, their names and renown are still held in veneration by mankind.

BRUNOY, Peter, in Geography, a celebrated French writer, of the order of the Jesuits, was born at Rouen in 1688, commenced his novitiate at Paris in 1704, and finished his studies at Caen. Having been for some time employed in teaching rhetoric in different parts of the country, he took the vows of his order at Paris in 1712, and undertook the education of the prince de Talmont. He engaged for several years in the Journal de Trevoux, but in consequence of publishing father Margat's history of Tamerlane, he was exiled from Paris. On his return he continued his "History of the Gallican Church;" but having nearly finished the 12th volume, he was taken off by a paralytic stroke in 1742, leaving behind him the character of an amiable man and an esteemed writer. The work from which he acquired the greatest reputation was his "Théâtre des Grecs," in 3 vols. 4to; containing prose translations and analyses of the principal Greek tragedies, with considerations on the Greek theatre, &c. The author, whose erudition and taste are much esteemed by the best judges, has been confounded by some writers for manifesting too strong a bias toward the ancients, and Voltaire in particular is displeased for his not having allowed the superiority of the French theatre above the Greek. Brunoy published likewise, in 1711, a collection of his own pieces, in 4 vols. 12mo, containing Latin poems, founded upon the model of Lucretius, spittles, and dramatic pieces, tragic, comic, and pastoral. His poem on the "Nine Passions" has been much extolled for the elevation of its sentiments, and its poetic beauties. The discriminating excellence of his tragedies confits in the delineation of the tender passions. The "Revolutions of Spain," begun by father Orleans, were finished by Brunoy. Nouv. Dict. Hist.

BRUN, Charles Le, an eminent French painter, was the
the son of a sculptor, descended from a Scots family probably of the name of "Brown," and born at Paris in 1619. Manifesting in very early life the bent of his genius, so that at the age of four years he took coals from the fire for drawing figures on the floor, and at the age of twelve years made a good portrait of his grandfather, he was placed under the instruction of Vouet, whom he alienated by his rapid progress. In 1642 he was sent by the chancellor Seguier to Italy, where he continued 6 years, boarding in the house of the famous Poufelin and employing himself in copying the works of the principal masters, and in studying the censure of different ages and nations, so as to acquire the character of a learned painter. He also imitated the taste of Poufelin so exactly as to deceive several connoisseurs. On his return from Rome to Paris, in 1648, he was received into the Academy, and as he engaged in the highest branch of his art, historical and allegorical painting, and selected great works, he rose to the most distinguished rank in his profession. He was patronized by the superintendent Fouquet, and by him recommended to Cardinal Mazarin, and by his interposition, to the king. By the interest of Colbert, he was afterwards made the king's first painter, and ennobled in 1662. Lewis XIV. honoured him with peculiar tokens of favour, and frequently attended him whilst he was painting the family of Darius at Fontainebleau. In his five large pieces of the history of Alexander the great, he is said to have exhibited the exploits of that conqueror in a more glorious light than Quintus Curtius in his history. As an evidence of his attention to truth and nature, it is reported that he cauget Persian horset on to be drawn at Aleppo as models for those which he painted in Alexander's battles. He was employed by Colbert in painting the chapel and pavilion of Aurora at his seat of Stains, and by his interest he had the direction of the royal works, and particularly of the Gobelin manufactory, for the tapestry of which he made designs of the four seasons and four elements, that were engraved by Le Clerc. At the Gobelin he had handsome lodgings, and he was allowed a considerable pension. The Academy of painting was altogether under his direction, and he contributed in an eminent degree, by procuring an establishment at Rome for the gratuitous education of young artists selected from Paris, and in a variety of other ways, to the promotion of the fine arts in France, and to the peculiar magnificence of the reign of Lewis XIV. With a particular view to this last object, he was occupied for fourteen years in representing by history and allegory, in the great gallery at Versailles, the splendid events of this period down to the peace of Nimesgun. But the work, though he devoted to it much time and attention, became the subject of criticism, so that his reputation derived little advantage from it. When Louvois succeeded Colbert as superintendent of the royal edifices, Mignard was set up as a rival to Le Brun, and the mortification he experienced preyed upon his spirits, so that he fell into a decline, and died in 1690, leaving a wife but no children. Le Brun maintained, in his manners and style of living, the dignity of a man of quality: foreign princes testified their respect for his talents by the eagerness with which they endeavoured to obtain possession of his works, and the grand duke of Tuscany paid him the compliment of requesting a portrait of him for his gallery. Thus flattered and honoured, both at home and abroad, it is no wonder that his pride should be mortified by the advancement of a rival; more especially when we consider, that he manifested a jealousy of competitors in his conduct towards Le Snow, which was unworthy of his talents and character. When this great genius lay on his death bed, Le Brun, after having visited him, paid on his departure, "that death was taking a great thorn out of his foot," an expression which indicated want of becoming sensibility, and which occasioned the unfounded report that he had procured poison to be administered to his rival.

The distinguishing merits of Le Brun as a painter are greatness of conceptions, good ordonnance, expression, and elevation; but he is cursed for too much of the French school and affectation, a want of variety in his attitudes and draperies, and deficiency of colouring. Among the most eligible of his performances we may reckon the "Battle of Alexander," the merit of which has been more compromising by the excellent engravings of Girard Andram, the "Penitent Magdalene" much admired, the "Carrying of the cross," the "Crucifixion," and "St. John in the lake of Patmos." His designs have been copied by many capital engravers, and himself etched for his amplement several plates, in a dark bold style, manifesting the hand of the master, among which are the "Four times of the day" and an "Infant kneeling upon the cross," from his own designs.

As a writer, he is known for two works: one "On Phylogeny," and another "On the Passions," which latter has supplied various models for drawing. D'Argenville, Gen. Dict. Pilkington, Strutt.

Le Brun, Peter Le, a learned ecclesiastical writer, was born at Brignole, in Provence, in 1661, became a priest of the oratory, and was engaged for 13 years in giving lectures, at the seminary of St. Magloire, at Paris, on the Scriptures, councils, and ecclesiastical history. In 1693 he published "Letters to prove the illusion of Philosophers on the Divining Rod," afterwards published under the title of "Critical History of the Superluminous Practices which have reduced the Vulgar and embarrased the Learned, with the Method and Principles for discriminating the natural from the supernatural Effects," three vol. 12mo., in which the author admires the reality of disabolical illusions in his attempt to give a natural explanation of fraudulent deceptions. He also wrote "An historical and doctrinal Treatise on theatrical Spectacles," 12mo. in which he maintains their usefulness to a Christian. At the request of the Abbe Bignon, he published an elaborate work on "Liturgies," in 4 vols. 8vo. the first of which appeared in 1716, and three others in 1726. The opinions which he advanced on the consecration of the mass, involved him in a controversy, during the prosecution of which his life was terminated by a dunghill in the brea, in January, 1729. As a writer, he was profound and methodical, with a clear and simple style: and his piety was equal to his erudition. Nouv. Dict. Hid.

Le Brun, or Browne, Caepe, in Geography, lies in the N.E. point of the entrance into the great road of Toulon, on the coast of France, in the Mediterranean.

Le Brunca, La, a sea-port town on the west coast of the island of Sicily, at the entrance of the gulf of Catania, 16 miles south of Catania.

Lebrদi or Brundisium. See Brindisi.

Le Brunella, in Botany. See Brunella.

Brunelleschi, Philip, in Biography, an eminent Italian architect, was born at Florence in 1377; and in early youth having a taste for mathematics and mechanics, and a desire to learn sculpture, he became acquainted with Donatelli, a rising artist in this department, and accompanied him to Rome, in order to survey the monuments of architecture and sculpture in that capital. Here Brunelleschi employed his whole time, with indefatigable industry, in making drawings and taking measures of all the famous relics of antiquity, and having conceived a design of establishing his fame, by creating,
erecting, on a new plan, a dome for the cathedral of St. Maria del Fiore at Florence, he remained in Rome, after the departure of his friend, in order to qualify himself for this undertaking. As in his youth he had been initiated into the buffets of a goldsmith, he now found his knowledge useful in procuring a maintenance by setting jewels for the goldsmiths. In 1457 fickleness obliged him to return to Florence; and at this time the Florentines had convoked an assembly of architects and engineers to deliberate on the completion of the cathedral. Brunelleschi gave his opinion and then returned to Rome. Many plans were proposed for erecting the proposed dome; but Brunelleschi was singular in affording that a double dome might be raised to a sufficient height without that immense mass of timber-work which others had thought to be necessary. Having communicated his designs, he engaged the confidence of the magistrates, and he was employed in the execution of the work. He proceeded step by step, and lived to complete the dome as far as the lantern; carrying it to such a height, and executing it with such beauty, as astonished the whole country. Such indeed was the beauty with which it was executed, that Michael Angelo afterwards said, it would be very difficult to imitate, and perhaps impossible to surpass it. Brunelleschi was employed by Cosmo the Great in building the abbey of canon regular at Fiesole, and in forming for him the model of a palace, which his prudence and moderation would not allow him to execute. But as Cosmo preferred the more humble plan of Michelozzi, Brunelleschi was so indifferent that he destroyed his model, though its superiority was acknowledged by Cosmo. He afterwards undertook the construction of the Priti palace, and carried it up to the second story; but the completion of it, after his death, was the work of Ammannati. The church of St. Lorenzo in Florence was almost entirely the work of Brunelleschi. He was in no less skilled in military, than in civil architecture; and in this department, he gave to the duke of Milan the plan of a fortress for his capital; and he also contrived the two citadels of Pisa, and other fortifications in that part of Italy. As a civil engineer, he was employed in 1445, by the marquis of Mantua in constructing dykes for retaining the Po to its bed; and soon after the completion of this work, he died at the age of 60, much regretted by his brother-artists, and more so by the poor, to whom he was a father. His merit was more generally acknowledged after his death than during his life; for he had the mortification of seeing several of his undertakings left unfinished for want of due encouragement. Brunelleschi was also a cultivator of Italian poetry, and some of his burlesque verses have been printed along with those of Burchiello. D'Argenville, Tiraboschi.


BRUNET, in Ornithology, the name assigned by Buffon to Fringilla pecorum, which see. Thus also Brunet du Cap de Bonne Espérance. Buff. is turdus capensis, which see.

BRUNET, in Geography, a small island near the south coast of Newfoundland, at the entrance into Fortune bay. N. lat. 47° 15'. W. long. 55° 4'.

BRUNET, Cape, is the southern point of the entrance into the bay of Arcalson, on the west coast of France, from which a trail stretches off towards the sea, in the direction of W.S.W.

BRUNETTE, L.A., a strong and well-garrisoned fortress of Piedmont, near Susa, commanding two valleys. By an article in the peace concluded between the French and the king of Sardinia, in April 1756, this fortress was to be dis mantled.


Eff. Char. Calyx five-toothed, narrow; tube of the corolla very long; capsule one-celled, many-seeded, with a large fleshy receptacle.

Sp. 1. B. Americana, Linn. trumpet-flower. (La Mare Illul. Pl. 53.) "Leaves elliptic, acuminate, on long petioles; tube of the corolla erect; lobes of the border entire." Swartz. A tree of a moderate size. Trunk, the thickness of the human body. Branches loose. Leaves alternate, very entire, narrowed towards the base, smooth. Flowers growing three or four together at the ends of the branches. Tube of a pale colour, fringed with violet spots; border at first very white, at length pale yellow. Fruit nearly spherical, a little larger than a nut, of an orange colour, containing numerous nutlet seeds placed between the external covering and a fleshy succulent substance which occupies all the inside. La Mare. Bifolin, M. van de Sande Bakhuyzen, Martinico, and other West Indian islands. Cultivated by Mr. Miller, in 1739. 2. B. mandraca. "Leaves lanceolate-ovate, drawn to a point at both ends; petioles very short; tube of the corolla curved; border wavy." Swartz. Native also of Jamaica, &c.

Eff. Schubert's description of the receptacle not being reconcilable with La Mare's, and not being in itself very intelligible, has been omitted.

Both these species may be raised in the spring, either from seeds or cuttings, and should be treated like other tropical plants. In summer they should have much fresh air; but in winter much be kept close. With proper management they will produce flowers every season in June and July.

BRUNI, LEONARD, in Biography. See Anon.

BRUNIA, in Botany. (from Cornelius Brun, the celebrated traveller). Linn. 274. Reich. 293. Schreb. 176. Jull. 381. Gaert. 152. Pl. 36. Wild. 428. Veitneus, 1719, vol. iii. p. 474. A genus formed by Linnaeus for several shrubby plants, which have some resemblance in habit to Erica and Potentilla, and are allied in their mode of inflorescence to flaccis; but its distinguishing characters are not accurately fixed: for Linnaeus afterwards separated from it two of
of the original species, annexing one to *dioica*, and the other to *protetra*, and admitted an additional one, which he had formerly referred to *phytia*. Reichard was sensible that the species of Linnaeus differ from each other in the number of styles and situation of the germ, but left them as he found them. Gartnert also observed, that the genus *fleuros* need in minor thorough investigation; and that the plants with an inferior couple of flowers, either quite separate, or joined together, and filaments inserted on the calyx. This genus he called *fleuros*; but in honour of one of Linnaeus's disciples, it has since been named *fleuros*. The essential character of *fleuros*, as it stands in Schreber, consists of a superior germ, single style, and filaments inserted on the claws of the petals. But the confusion was not yet completely removed; for two of the species with a superior germ have decidedly two styles. It was therefore necessary either to divide the original genus into three, or to allow to *fleuros* a greater latitude with respect to the style. The latter has been preferred by the present French botanists, except La Marec; and we do not hesitate to adopt Ventenat's generic character of *fleuros*, especially as it corresponds with Willdenow's disposition of the species, though the essential characters of *fleuros* and *fleuros* in the German author are both erroneous. We shall only add, that some obscurity nevertheless remains, till we have new and accurate detailed descriptions of all the species taken from recent and complete specimens. Gen. Char. Receptacle common, tubular. Calyx common, many-lobed. Calyx proper, inferior, with five segments. Petals five, elongate, upright, clawed. Stam. five, attached to the claws of the petals. Pist. germ superior; style single or double; stigmas two. Pericarp, a dry pour, containing a hard, two-celled nut, with but few seeds. Eff. Char. Stamens on the claws of the petals; germ superior. Pericarp, a dry, two-celled drupe. Species. 1. B. nodiflora, Linn. (La Marec, Illfl. Pl. 126.) "Leaves three-fidged, curved inwards; heads of flowers terminal, on the lateral branches." Thun. A branched, evergreen underbush. Leaves very small, pointed, upright, closely imbricated, forming in the flender branches five longitudinal, somewhat spiral, angles. Heads of flowers whitish, about the size of a small cherry. Styles two. 2. B. pelace- ca. Linn. "Leaves three-fidged, upright, closely pressed to the stem; heads coriaceous, leathery, larger than the flowers." Willd. Similar to the foregoing. Leaves smaller. Heads of flowers many; panicked. Receptacle villous. Style two. 3. B. lanuginosa, Linn. "Leaves linear, very flender, spreading, smooth; heads of flowers globular, smooth, aggregate, terminal." La Marec. Little branches reticulated, with a woolly subtilance, in the manner of a spider's web, whence the trivial name. Leaves numerous, very small, smooth, tipped with a black point. Heads of flowers white, small, smooth, numerous. Bergius says, that the germ is inferior; but it appeared to La Marec in a dried specimen to be superior, incorporated with the top-shaped bace of the flower. Style awl-shaped; stigma sphen. If Bergius should prove to be right, and if, as the simple stigma seems to indicate, the fruit should be found one-celled, it must be removed to *fleuros*. 4. B. abrotanoides. Linn. "Leaves linear lanceolate, spreading, with three flat sides, ciliolus at the points." Linn. A much branched underbush, about a foot and half high. Leaves smooth, rounded. Heads of flowers small, smooth, terminative, many together, disposed somewhat in the form of an umbel. Style one, emarginate. 5. B. verticillata, Linn. jun. "Leaves with three flat sides, obtuse, smooth; little branches whorled, svidgiate; heads terminating." Linn. jun. Heads not globular. 6. B. lopidea. Willd. "Leaves with three flat sides, thread-shaped, with callos points, spreading, chlorite-villosa." Will. "Edges of the leaves thinly ciliated with long hairs." 7. B. fragriflora, Willd. "Leaves with three flat sides, depressed to the stem; the edges and the midrib thickly ciliated." Willd. These two are inferred from their habit; the flowers not being known. 8. B. ciliata, Linn. "Leaves ovate, acuminate, ciliate." Linn. Style all. All the species are natives of Southern Africa.

Cnfoma. La Marec, in the letter-prest to his plates, has retained all the species under *brunia*; and, in contradiction to his own descriptions published some time before in the alphabetical part, he has made a superior calyx part of its essential character. The germ of *b. nodiflora*, he now says, is certainly inferior; and it must be confessed, that he is in some degree supported by the high authority of Gartnert, who has figured the fruit of this species, and calls it femi-inferior; but through a strange inattention in the essential character, he describes the fruit as a capsule; in the general one, as a dry berry. He divides the genus into two families: 1. With globular heads of flowers, the *fleuros*; comprising the species described above, except the two introduced by Willdenow, and the *ciliata* of Linnaeus, which he appears to have discarded. 2. With heads surrounded by a lengthened, coloured calyx, forming a kind of involucre. This family consists of the two species, which have been referred to *fleuros*.

Professor Martyn has inferred under *brunia*, only the *lanu- gingo*, ciliata, and *verticillata*; aligning to *fleuros*, the *nodiflora*, *pel测ca*, and abrotanoides, as well as the *radiata*, and *glutiusa*, which constitute the *fleuros* of Willdenow, Ventenait, and Rofe. See Stavae. *Brunia levisiousus*. See Profet*ea* levifanus. *Brunia uniflora*. See Diggia Cupressina. "BRUNIQUEL, in Geography, a town of France, in the department of the Lot, and district of Montauban; 8 leagues S.S.E. of Cahors. BRUNN, John-James, in Geography, was born at Baffe in the year 1591. Applying to the study of medicine, he was admitted to the degree of doctor in that faculty in 1615; and in succession was advanced to the rank of professor in anatomy, botany, and in the practice of medicine. To the last he was appointed in the year 1529, and he continued performing the duties of these offices to the time of his death, in 1650. His work is "*Systema Materie Medicei, continens Medicamentorum simplicium et combinationem Seriem et Sylvan, Methodo medendi ac Formulis Remediiorum perfeclendis accommodatum*," Ed. 1630, 8vo. The work has been many times re-published; and in 1683, with notes, by Gerard Blafus. Hall. Bib. Med. Elloy. Dict. Hift.

BRUNN, in Geography, a town of Germany, in the arch- duchy of Austria, 4 miles W. of Horn.-Alto, a town of the fame archduchy, 8 miles W. of Ebenfurth. BRUNN, or Btui, a city and royal borough, the second town in rank, and the chief in commerce, of Moravia, the capital of a circle of the same name. Situated at the confluence of the rivers Schwarzez and Surtava. Although this city is not large, it is well-built and populous; the number of inhabitants being estimated at 18,000. It has considerable manufactures of cloth, velvets, and pluffs. The diocese of the state are held here, alternately with Olmutz. It is defended by a strong fortress called "Spillburg," erigi- ed on an eminence near the town, at the foot of which stand two cliffs of rock, and an hospital of the knights of
Malta. The Turks laid siege to this fortress in 1742, but were obliged to abandon the enterprise. In the town are six cloisters, the bishop's palace, a collegiate church, and a college of Jesuits. The cloister of Augustinian hermits is famous for an image of the Virgin Mary, pretended to have been made by St. Luke, and for a foundation for young ladies. Bruno is distant about 3 miles S.W. of Oltnitz, 10° S. E. of Prague, and 15° S. E. of Dresden. N. lat. 49° 10'. E. long. 16° 17'.

Bruno, a circle of Moravia, bounded on the north by Bohemia, on the east by the circle of Olmutz and Hradin, on the south by Austria, and on the west by the circle of Ljghau and Zagymin. In this circle are many iron-mines and forges, medicinal springs, quarries of marble, glass-houses, and alum-works. It is said to contain 70 towns, and above 20,781 houses. The capital is Bruns.

BRUNNEA, in Entomology, a name given to a species of Musca, that is entirely of a brown colour. Linn. This is a native of Europe.

BRUNNEA, an East Indian species of Vespa of the larger kinds. The prevailing colour is dull, ferruginous; and the front segment black at the base. Fabr.

The legs and antennae of this insect are ferruginous.

BRUNNEA, a species of Phalæna, having brown wings, with a large transverse yellow spot in the middle; margin cheetn brown. This is of the Natura family, and inhabits Germany.

BRUNNEA, a species of Chrysoma, of a small size, that inhabits New Holland. It is teallacous, with the future of the clytra, and a small line in the middle, fulvous. Fabr. &c.

BRUNNEA, in Natural History, a species of Planaria, of an oblong shape, and brown colour, with a longitudinal black line. Müll. Hüt. Verm. Its habitat unknown. This is nearly allied to nigra, another species of Planaria.

BRUNNEARIA, in Entomology, a species of Phalæna (Geometra), the wings of which are deep yellow, with a black margin above, and two black streaks beneath. This is a native of Italy.

BRUNNEATA, a species of Phalæna (Geometra), with ferruginous wings, and four abrupt brown bands. Inhabits Upid. Dorfl. Inf.

BRUNNEN, in Geography, a populous village of Switzerland, in the canton of Schwyz, situate in the midst of a bay formed by a branch of the lake Lucern, or lake of the four cantons; celebrated for the treaty concluded in 1315, between Uri, Schwyz, and Underwalden, which gave birth to the Helvetic confederacy. It was again distinguished in April 1798, by being the place where deputies from the cantons of Uri, Schwyz, Underwalden, and Glarus, unanimously determined to maintain their independence, and to refit the innovations of the French. Brunnen is separated from Schwyz by a pleasant and fertile plain, laid out in meadows, and planted with fruit trees, and distant from it about 1/2 miles S.W. N. lat. 46° 50'. E. long. 8° 27'.

BRUNNEOLUS, in Entomology, a Limnan species of Ichneumon, peculiar to Europe. The piercing colour is black; abdomen and legs reddish; antennae reddish, with the base black; posterior brown.

BRUNNER, Balthazar, in Biography, born at Hall, in Saxony, the middle of the 17th century; adorning himself to the study of medicine, was sent to the university at Erford, and afterwards to Leipzig, where he was admitted to the degree of doctor in that faculty. He then travelled over part of Italy, France and England, and having passed three years in those countries, returned to Hall, where he acquired much reputation for his learning and for his skill in his profession. He died in 1694. A few years after his death, were published, collected from his papers, "Conflitia medica, fammno studio collecta et revifa, a Laurencio Hoffman, Halae Sax." 1677, 4to. "De Scorbuto Transatus duo," 1678, twice printed with the treatise of Engelman, written in a methodical manner, and giving an accurate account of the disease. Among other remedies, he recommends the juice of water cress taken in milk whey. Though attached to alchemy, in which he was allowed to be expert, he left no written documents on that subject. Haller Bib. Med. Eloy. Dict. Hist.

BRUNNEN, John Conrad, a Swiss physician and anatomist of eminence, was born at Diefenichen, the 16th of January 1653. After passing through the usual school education, he was sent at the age of 16, to Strasbourg, where, applying himself to the study of physic, and anatomy, he was created doctor in medicine in 1672. For his thesis, he gave the anatomy of a child with two heads, which it was his fortune to meet with. He now went to Paris, and attended the schools and hospitals there, with such affinity, as to attract the notice, and gain him the intimacy of Dionis and du Verny, who were present while he made the experiments on the pancreas, which enabled him, some years after, to publish a more accurate description of that viscus, than had been before given, under the title of "Experimenta nova circa Pancreas. Accedit Distributane Lymphta et genuine Pancreatis ufu," Svo. 1683, Leiz. He proved that the fluid secreted by the pancreas is not necessary to digestion, and that an animal may live after that viscus is taken out of the body, having tried the experiment upon a dog, which perfectly recovered from the operation. On quitting Paris, he came to London, and was introduced to Dr. Willis, Lower, and Henry Oldenburg, secretary to the royal society. From England, he passed to Holland, and studied for some months at Leyden. At Amsterdam, he visited Swammerdam and Ruyfch, with whom he afterwards corresponded. Returning home, he was made professor of medicine at Heidelberg, and first physician to the elector palatine, who conferred on him the title of baron de Brun in Hamerlein. About the same time, he married one of the daughters of the celebrated Wepfer, and was elected honorary member of the academy of nature curiosif. In return for some ingenious disquisitions which he had communicated to them. In 1688, he published "Dissertatio Anatomica de Glándula piutaaria," 4to. Heidelbr. From this time, he became in such great repute, for his knowledge and success in practice, that he was, in succession, confided by most of the princes in Germany. Among others, in 1720, he was sent for to Hanover, to attend the prince of Wales, afterwards king George II. In 1715, he published at Heidelberg, "Glandula Duodeni Pancreas fecundum detextum," 4to, which was only an improved edition of his "De Glandulis in Duodeni Intellino detectis," which had been before twice printed. There are some other letters, the titles, and accounts of which are given by Haller, in his Bib. Anat. In the later edition of Wepfer's works are given disquisitions by our author, of the heads of some persons who died of apoplexy, of whom he had had the care. Though early afflicted with gravel, and in the latter part of his life with gout, he continued to attend to the calls of his patients, though living a great distance from his residence. When, in his 74th year, he went in great haste to Munich, to attend the elector Maximilian Emanuel, on his return, he was seized with a fever, which, in a few days, put an end to his existence, on the 2d of October 1727. Haller Bib. Anat. Eloy. Dict. Hist.
**BRU**

**BRUNNEUM**, in Entomology, a species of *Hister*, described as a Swedish insect. The colour is ferruginous; wing-cases somewhat triated. Linn.

**BRUNNEUS**, a species of *Curculio* of a large size, found at the Cape of Good Hope. The general colour is brown; beak fuscos; wing-cases tesselaceous, and streaked with dots. Fabr. Gmel. &c.

**BRUNNEUS**, a species of *Ptenus* of a brown colour, with the wing-cases very smooth, with pustulent flutes. Linn. &c. A native of Europe.

**BRUNNEUS**, a species of Cryptoccephalus, found in Europe, that is described by Linnaeus. The colour is brown; abdomen fuscos; wing-cases smooth.

**BRUNNEUS**, a species of *Elater* that inhabits Europe. The thorax is rufous, in the middle black; wing-cases and body ferruginous. Linn.

**BRUNNEUS**, a species of *Cimex*, of an ovate form, and brown colour, except the wings, which are white. This is found in Europe, and is described as above by Linnaeus.

**BRUNNEUS**, a species of *Asillus*, the thorax of which is cinereus, lincated with black; abdomen and legs brown, with black spots. Fabr. This kind is a native of Cayenne.

**BRUNNICHEN**, a species of *Eleus* of the *Tinea* tribe, named after Brunnich. It is of a black colour with three violaceous bands. Vandelli. &c. Inhabits Europe.

**BRUNNIPES**, a species of *Tenebrion*, the size of which is small. It is of a black colour, very smooth and glossy; wing-cases frizet; antennæ and legs ferruginous. Fabr. &c. Inhabits Europe.

**BRUNNIPES**, a species of *Staphylinus* of a black colour, with the legs and antennæ of the base and tip ferruginous. Inhabits Europe.

**BRUNNUS**, a species of *Cerambyx* of a brown colour; thorax armed with three spines; wing-cases obtuse, with two obscure elevated thorns; antennæ compreaff and short. Inhabits North America. Gmel. &c. *Obf.* The Cerambyx penfylavicus of Degeer.

**BRUNNUS**, a species of *Spinica*, (Sofia), the wings of which are brown, and without spots; posterior ones carminate. A native of Surinam. Fabr.

**BRUNO**, Giordano, in Biography, a bold innovating philosopher of the 16th century, was born at Nola in the kingdom of Naples; and, though he first entered among the Dominicans, the freedom of his religious opinions rendered it expedient for him to seek a refuge at Geneva in 1583. But the rigid system of orthodoxy, inculcated by Calvin and Beza, obliged him to leave this city, after a residence in it of two years, and to return to Paris, where, notwithstanding his opposition to the Ariditatic philosophy, he was allowed, for some time, to deliver public lectures in the university. In 1586, he defended for three days, in a solemn disputation, opinions concerning nature and the world, which he published in 1588, at Wittenberg, under the title of "Acrotithium, seu Rationes Anglicarum Physicarum adversus Peripateticos Parisis propositorum." Before this time, he took a journey to England, and formed an acquaintance with Sir Fulk Greville, and Sir Philip Sydney, to the latter of whom he dedicated two works. From Paris, he removed to Wittemberg, and made an open profession of Lutheranism. After a temporary residence at Helmstadt, and at Frankfurt, where he superintended an edition of his numerous works, printed by John Wechel, he settled at Padua, but being arrested, he was first confined in the prison of the inquisition at Venice, and afterwards at Rome. After two years' confinement, he was condemned by the inquisitorial tribunal, and burnt alive in February 1590. The crimes which have been alleged against him, were his Lutheran heresy, his defension from the Dominicans, and his atheistical opinions. Bruno was of a paradoxical turn of mind, and of a confident fantastic disposition; fond of advancing novel and fanciful sentiments, but confused and obscure in his method of explaining them. Bayle and La Croze have charged him with founding his philosophy on the principles of Spinoza; but, in reality, he attempted to unite the ancient eminente and atomic syllems. In his works are found obscure hints of the vortices of Des Cartes, the atoms of Gassendi, the optimism of Leibnitz, and the celestial physics of Copernicus; but his speculations on these topics are very darkly and inaccurately expressed; and he seems to have been more distinguished by his bold attack of ancient errors, than by his introduction and establishment of new truths. One of his most famous works is "Spaccio della Belfia triomphant," or the demolition of the triumphal beam; Lond. 1599. A work satirizing many received syllems of religion, and charged with advancing atheistical opinions. Besides several philosophical and theological writings, he was the author of an Italian comedy in prose, entitled "Il Candelonio," and of some Latin poetry.


**BRUNO**, a saint of the Roman church, and founder of the order of Carthusians, was born at Cologne, about the year 1040, and studied at Rheims, where he became a canon and regent of the public school. Compelled to leave Rheims by the tyranny of Manafes, the archbishop, he determined, in 1050, to retire from the world to the desert of Chartres, where, in 1054, he founded his new order. After residing in this solitude for 6 years, he was summoned to Rome by pope Urban II., who had been his scholar at Rheims; but disgusted with the manners of the capital, he withdrew to Calabria, and declining to accept the archbishopric of Reggio, he obtained from count Roger a forest, with its adjacent district, named la Torre, near Squillace, where he founded the second house of his order. In this retreat he died in 1101; and he was canonized by pope Leo X., in 1514. His works, which are enumerated by Cave, have been confounded with those of his contemporary St. Bruno of Segni, who flourished about the year 1087, and died in 1123. The principal treatises of Bruno, the Carthusian, are: a "Commentary on the Psalms," and another "On St. Paul's Epistles," besides several collections of sermons, and two letters to his disciples. A collection of his works was printed at Paris in 1552 and at Cologne in 1611, 3 vols. fol. Cave's Hist. Lit. vol. ii. p. 128.

For an account of the order estabished by Bruno, see CARThUSIANS.

**BRUNO**, James Pancrace, born at Altdorf on the 25th of January 1629, after receiving a liberal education in his own country, was sent to Padua, where he was admitted doctor in medicine in 1653. Returning thence, he settled at Nuremberg, and soon became distinguished for superior learning and abilities. In 1662, he was invited to accept the chair of professor in medicine at the university of Altdorf.
BRUNSFELD, a town in Saxony, city of Magdeburg and the principality of Anhalt and Holstein, on the Elbe, with the city of Tuscany.

BRUNSBURG, a city of Germany, in the circle of Lower Saxony, and district of Wolfenbüttel. It is the capital of the preceding duchy, and the residence of the prince, to whom it belongs, and who is usually styled the "duke of Brunswick and Wolfenbüttel." It is situated on the banks of the Oker, which enters the plain by two branches, with the city at its infula out of the city. It is accordingly divided into five different parts, called the Old Town, the New Town, the Hagen, the Old Wicke, and the Schie. The form of the town is nearly square, and its extent about 2 miles in circumference. The houses in general are old, and constructed of wood; but many new buildings have been lately erected, and the city is now day acquiring fresh beauty. It has several churches, one of which is for the accommodation of the Lutheran worship, which is the prevalent religion of the place, and others appropriated to the French and Dutch Calvinists, and to the Roman Catholics. Among the public buildings, we may reckon the prince's palace, which is an annexe to the library, containing a curious collection of scarce and curious bibles, or fragments of bibles in several languages, to the number of above 1000 volumes; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; the academy for martial exercises; 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correction; the orphan-house, which since the year 1753, has had annexed to it a Latin school, with a printing-press and book-shop; two gymnasiuins, with an anatomy and surgery school, founded by duke Charles, and opened in 1751; a college for the study of physics, instituted in 1757; a large lazaretto; and a hospital. With respect to the academy at Brunswick, Dr. Moore informs us, (View of Society and Manners in France, &c. vol. ii. p. 70.) that it has been a new modelled, and the plan of education improved, by the attention, and under the patronage of the hereditary prince. Students now resort to it from many parts of Germany, and some even from Great Britain. Such of them as are intended for a military life, will find advantages in this academy, superior to those that may be had at any other place on the continent. They will here be under the protection of a family partii to the British nation; every branch of science is taught by masters of known abilities; the young students will see garrison duty regularly performed, and may, by the interest of the prince, obtain liberty to attend the reviews of the Prussian troops at Magdeburg and Berlin: and they will have few temptations to exemplo in a town, where they can see no examples of extravagance; they will have few opportunities of dissipation, and none of grofs debauchery.

The reigning prince of Brunswick is said to administer the finances of the state with wife frugality, and to diminish the debts, in which, at his accession to the duchy, he found himself involved. As the father of his people, he employs his power to inculcate their prosperity and happiness. Many of their former burdens are already diminished, and property is not heavily taxed, and the finances are daily advancing to a better condition.

Brunswick is strongly fortified; and on the ramparts it has a mortar-piece of brass, 12½ feet in length, and 9 feet 2 inches in circumference, and weighing 1,800 quintals, which will carry a ball of 730 lbs. weight to the distance of 33,000 paces, and throw a bomb of 1,000 lbs. weight; but it requires 52 lbs. of powder for a charge. Although fortifications have occasioned much calamity to many towns in Germany, by attracting the vengeance of enemies, so that many of them are now disdained; those of Brunswick were of singular utility in 1761, when they prevented the town from being pillaged, and afforded prince Frederick an opportunity of gaining signal honour. When the town was besieged by a body of 20,000 men under prince Xavier of Saxony, prince Ferdinand detached 5,000 of his army under his nephew Frederick, affixed by general Luckner, with order to make an attempt for scaling the siege, and faving his native city. The prince dispatched a messenger to the governor, with a letter wrapped round a bullet, and which he was instructed to swallow, in case of his being taken by the enemy. However, he had the good fortune to make his way into the town; and the prince, in the middle of the night specified in the letter to the governor, fell sudenly on the enemy's cavalry, who, unprepared of his approach, were encamped carelessly within a mile of the town; and leaving by this sudden movement dispersed the cavalry, he produced an alarm among the infantry, which occasioned their retreat. Early in the morning, the young prince entered Brunswick, amidst the acclamations of his fellow-citizens, whom he had relieved from the horrors of a siege. On the arrival of his brother, the hereditary prince, at his father's palace, he found Frederick at table, entertaining the French officers, who had been taken the preceding night.

Brunswick was formerly one of the Hanse towns, and governed as a republic: but when it became a fortified city, its commerce was injured, and its population diminished. Its number of inhabitants is now estimated at about 22,000; the peasants are sober and laborious, and as they are robust, though clownish, they make good soldiers. They have several manufacturies in the town; but one of the chief employments of the people is spinning wool and flax; and they are provided with an excellent institution for supplying the poor with these means of subsistence. This institution furnishes all who choose to apply with the materials, and they are paid for their labour on the same terms with those of the manufacturies; and yet, what arises from the sale of the yarn and thread, is sufficient to defray all the expenses of the establishment. Adults perform this work at their own habits; but 200 children work every day in the house, and are there also instructed in reading and writing. The first spinning wheels are said to have been invented in this place in 1530, by a flatuany, named Jurgen. The strong beer of Brunswick, called "Mum," after the name of its inventor, Christian Mammken, is exported to various parts of Europe, and even Asia. Brunswick has two considerable fairs every year.

Brunswick appears to have been in being so early as the 8th century. In 775, it is said, that the emperor Charles the Great came to the Ocker, which runs through "Brunonis vicum," or Brunswick; and it is also related, that in the beginning of the 8th century, bishop Swibert with his train of followers went to Saxony, and coming to a large town called Brunswick, preached there, and converted great numbers. Hence, it has been thought not improbable, that the place was founded by duke Bruno, fon-in-law to duke Wittkind, if not by his father duke of Enjern. Bruno I. margrave of Saxony, is said to have enlarged and embellished this city A.D. 955. In the time of Henry the Lion, it consisted of five precincts, within its separate wall; but this duke, in 1177, included them all within one wall. In 1314, the burghers of Brunswick were discharged from all kinds of villanage; and in 1345, the citizens by mortgage acquired the government of the town, and arrogated other immunities, which were the occasion of fierce and tedious contests between them and the duke. At length, in 1671, duke Rudolphus Augustus made himself master of the town after a long siege, by means of the cannon which had been lent him by the inhabitants for another purpose; and he erected a citadel to secure his subjection. In 1757, it was taken by the French, but evacuated in the following year: and an unsuccessful attempt was made against it in 1761. Brunswick is distant 7 miles N. of Wolfenbuttel; in N. lat. 52° 15', 47'. L. long. 10° 35'.

**BRUNSWICK, FAMILY OF, in History.** This ancient and illustrious house is descended from the marquis of Azo of Elle, who was proprietor of the Milanese, the state of Genoa, and several other countries in Lombardy. About the year 1040 he married Cunigunda, or Cuniza, heiress of the first Welfs, or Guelfs, earls of Altorf, in Sabis; and their son Welf, or Guelf, obtained the duchy of Bavaria of Henry IV. in 1071. His grandson, Henry, duke of Bavaria, acquired Brunswick along with Saxony. In 1195, William, son of Henry the Lion, and of Matilda, or Meide, elder daughter of king Henry II. of England, in whom was united the Anglo-Saxon and Norman blood, acquired Lunenburg; and his son Otto, in 1235, was the first duke of Brunswick and Lunenburg. His son, Albert I. in 1253, was named the Great. Magnus II. in 1268, was named Turquattus, from a large chain which he wore. His son, Bernard, retained Lunenburg; while Brunswick passed to Henry the second son, and continued in the line of his descendants till the year 1342. The dukes of Lunenburg acquired some small portions of adjacent territory. Henry being put to the ban of the empire, in 1521, was fac-
founded by his son, who only assumed the title of duke of Zell, a title which continued till the reign of George William, in 1665. In 1617, Christian, duke of Zell, obtained possession of Grabenhagen. In 1628, George William, Duke of Zell, confirmed that the electorate, instituted in favour of his family, should be conferred on his younger brother, as he had no male heir. Ernest di in 1639, having married Sophia, daughter of Elizabeth, daughter of James I. of England. He was succeeded by his son George Lewis, elector, in 1658, and king of England, in 1714, who, in 1715, added to his family the duchy of Brunswick, with the principality of Verden. In 1727, he was succeeded in the British throne and electorate by his only son, George Augustus, or George II., from whom, in 1709, they divided his grandsons, our present sovereign, George III.

Brunswick Lombarde, or Lombarde, is Geography, an electorate of Germany. The territories of which are chiefly situated in the circle of Lower Saxony, is frequently denominated, from its capital, the electorate of Hanover, which see. See also LUNEBURG.

Brunswick, Wolfenbuttel. See Duchy of Brunswick and Wolfenbuttel.

Brunswick, Kwen, a province in the northern part of Nova Scotia, according to the division of 1783, the other retaining the original name, lies on the north west of the bay of Fundy, and is bounded on the north by the north shores of this bay, and by the river Missiquash to its source, and from thence by a due east line to Verte bay, and on the west by a line running due north from the main source of St. Croix river, in Paffamaddoquay, to the high lands, which divide the streams that fall into the river St. Lawrence, and the bay of Fundy; and from thence by the southern boundary of the colony of Quebec, until it touches the sea-shore at the western extremity of the bay of Chaleur; then following the course of the sea-shore to the bay of Verte, in the limits of Northumberland, until it meets the termination of the eastern line, produced from the source of the Missiquash already mentioned, including all the islands within the said limits. The towns of this province are the capital Frederick-town, situated about 90 miles from the mouth of the river St. John; St. Ann’s almost opposite to it, St. Andrew’s and St. John’s, 18 miles, another town, near the mouth of the river St. John, was erected, under the appellation of New Brunswick, into the metropolis of the province so called. There are five other settlements near the bay of Fundy, with a fort called Howe. A tribe of savages, called the Marchites, inhabits this province, and they are estimated at 1,400 fighting men. It has two considerable bays, several lakes, among which the grand lake is 30 miles long and about 9 broad; and the chief rivers are St. John’s, Maggiepavie, or eastern river, Dickwell, St. Croix, Merrimack, Petticozanes, and Memram-Cook, all of which, except the three last, discharge themselves into Paffamaddoquay bay. St. John’s river is navigable for vessels of 50 tons about 60 miles, and for boats about 200; the tide flowing about 80. It opens into a vast extent of country, in which are rich vales and meadows under cultivation; and the upland is in general well timbered; the trees being pine and spruce, hemlock, and hard-wood, principally beech, birch, maple, and some oak. The pines on St. John’s river are the largest in British America, and afford a considerable supply of nails for the royal navy. The fish are salmon, bays, and tarpon. This river affords a common and near route to Quebec. The river St. Croix separates New Brunswick from the province of Maine, belonging to the United States. The rivers which fall into Paffamaddoquay bay have on their banks meadows and woods, and must formerly have been covered with a large growth of timber, as the remains of large trunks are still visible. The great chain of the Appalachian mountains parallels on the north-west of this province, probably terminating at the gulf of St. Lawrence. The chief products of this province are timber and fish. See NOVA SCOTIA.

Brunswick, a county of America, in Virginia, lying between Nottaway and Mecklenburg rivers; is about 38 miles long, and 33 broad, and contains 12,827 inhabitants, including 676 slaves.—Alto, a maritime county, in the district of Wilmington, North Carolina, containing 3074 inhabitants, of whom 1511 are slaves. This is the most southerly county of the state, having South Carolina on the south-west, and bounded by Cape Fear river on the east. Smithville is the seat of Justice.—Alto, the chief town in the above county, situated on the west side of Cape Fear river; and formerly the seat built in the whole state, and carrying on the most extensive trade. It lies about 17 miles S.W. of Wilmington, and was formerly the seat of government; but in 1780 it was conformed by the British forces, and has now only three or four houses, and an elegant church in ruins. N. lat. 34° 2’. W. long. 78° 12’.—Alto, a township in Essex county, Vermont, on the west bank of Connecticut river, opposite to Stratford, in New Hampshire.—Alto, a city in Middlesex county, New Jersey, situate on the south-west bank of Raritan river, in a low situation, under a hill rising to the west of the town. It has between 200 and 320 houses, and about 2550 inhabitants, one half of whom are of Dutch. This town has a considerable inland trade, and over the river, opposite to this city, is one of the most elegant and expensive bridges in America. It is 13 miles N. from Princeton, 63 N. from Philadelphia, and 35 S.W. from New York. N. lat. 40° 30’. W. long. 74° 50’.—Alto, a town of Cumberland county, in the district of Maine, lying 30 miles N.E. of Portland, and of Bolton 171, on the south side of Merry-meeting bay, and partly on the south-western side of Androscoggin river. It contains 1307 inhabitants; and is the seat of Bowdoin college. N. lat. 43° 52’. W. long. 69° 58’.—Alto, the chief town of Glynn county, in Georgia, situated at the mouth of the Turtle river, where it empties into St. Simon’s Sound, N. lat. 31° 10’. The harbour is safe and spacious enough to contain a large fleet. The town is regularly laid out, but not finished. From its advantageous situation, and the fertility of the back country, it promises to be one of the most commercial and flourishing places in the state. It is distant 19 miles S. of Darien, 62 S.W. of Savannah, and 110 S.E. of Louisville. N. lat. 31° 41’. W. long. 81° 45’.

Brunswick bay, one of the Hudson-bay company’s settlements, situate on Moose river, half way from its mouth; S.W. from James’s bay, and N.E. from Lake Superior. N. lat. 50° 13’. W. long. 83° 31’.

Brunswick green. Friesland green. This colour is largely used for the bluish greens of pepper-boxes, and other coarse kinds of painting in water colours. It is prepared in the following way. Take a barrel, or any other close vessel of wood or earthen ware, and fill it half full of filings or clippings of copper; then pour in a saturated solution of sal-ammoniac, sufficient to moisten the whole thoroughly: put on the cover of the vessel, and let it in a warm place. In a few hours the copper will begin to decompose the sal-ammoniac, and form murrit of copper, ammonium being at the same time disengaged. The murrit or oxyd absorbs a considerable quantity of moisture, on which account it is requisite from time to time to add fresh portions of dissolved sal-ammoniacs, till, in the course of a few weeks, nearly the whole of the copper is converted into oxyd. The contents of the barrel are
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are now to be emptied and passed through a sieve in a tub of water, by which the unoxidized copper will be separated from the pigment, which will pass into the water. This being well washed, and dried in the shade, is pure Brûnluck green. Three parts nitrate of ammonia, and two of copper yield six parts of the green. It is rarely, however, that pure Brûnluck green is met with, as it is largely adulterated with ceruffle.

BRÚNTRUT, or BRÚNTRUT, in Geography. See PORENTRU.

BRÚNUS, in Biography, an Italian physician and surgeon of great name in his time, flourished in the early part of the 16th century, and is said to have been intimate with Petrarch. He was author of "Chirurgia Magna et Parva," published at Venice in 1440 in a collection of chirurgical treatises, fol. which has been several times reprinted. The Chirurgia is a compilation, taken from the Greek and Arabian physicians, principally from Albucasis, from whom he describes the operation of cutting for the stone in the bladder. In the middle of the ams he recommends opening the sinuses, without which, we cannot, he says, be certain of curing. Haller. D. Chirurg. Elyot Dist. Hist.

BRÚNSEE, a town of Germany, in the county of Stiria; 12 miles W. of Rackeburg.

BRÚSA, a town of Turkey, in Asia, built by Prusias, the friend of Hannibal. It is full extensive and populous, but the streets are narrow. Many houses are built so much against the hill, that the upper rooms open into the gardens. They reckon 70 mosques, but most of them are neglected, or absolutely in ruins. The police is excellent. The bezdzan is ample, and one of the khans is singularly commodious. The sale of raw and manufactured silk constitutes its commerce.

BRÚSA-SORE, in Biography. See Riccio.

BRÚSCH, in Geography, a river of France, which runs into the Rhine at Strasbourg. It forms a canal by means of sluices from Molsheim.

BRÜSCHIO, a town of Switzerland, in the Valteline, situated near a river which discharges itself into the Adda. N. lat. 48° 5': E. long. 10° 5'.

BRÜSCUS, in Boiainy, Ger. See Rusces.

BRÜSEGANNA, in Geography, a town of Italy, in the Padovan; 4 miles W. N. W. of Padua.

BRÜSCH, an embellishment of hogs or hogs' bristles, fastened in the holes of a wooden handle or board, pierced for that purpose, and serving to cleanse driers' bodies by rubbing therewith. Of brushes there are a round, a flat, or square brush, cloaths-brush, head-brush, horse-brush, beard-brush, comb-brush, weavers-brush, and the like. The manner of making brushes is, by folding the hair or bristle in two, and bringing it by means of a pack-thread, or wire, engaged in the fold, through the holes with the iron is pierced all over, or fastened therein with glue or pitch. When the holes are thus all filled, they cut the ends of the hair to make the surface even.

BRUSH, Painter's. See Pencil.

BRUSH, Shearmen's, is made of wild hogs' bristles, and serves to lay the wool or nap of cloth, after sheering it for the last time.

The fluff-brush is of use in medicine, especially in case of rheumatism, and certain cutaneous disorders. See Friction.

The brush is also applied to the soles of the feet of newborn infants, when fainting, to find whether they be alive or dead.

BRUSH, in Electricity, denotes the luminous appearance of the electric matter, issuing in a parcel of diverging rays, from a point. Beccaria ascribes this appearance to the force with which the electric fluid, going out of a point, divides the contiguous air, and pulls through it to that which is more remote. See Plate, Electricity. See Star.

BRUSHES, wires, are used by silver-smiths and gilders, for scratching silver, copper, or brass pieces, in order to the gilding of them.

There is a method of dying or colouring leather, performed by only rubbing the colour of the brush, with a brush. This the French leather-gilders called iron-ore; being the lowest of all the forms of dye allowed by their statutes.

Brush of a fox, among Sportsmen, signifies his drag or tail, the tip or end of which is called the shape.

Brush iron-ore, signifies a kind of ore full of fire, resembling the hair of a brush.

Brush is also used in speaking of a small thickets or coppice. In this sense, the word is formed from the middle age Latin broiice, brushes, which signifies the same.

Brush-word denotes smaller hinder wood or spry. See Browse.

BRUSHING. Among Turks, a brushing gallop denotes a brush one; a horse should have his brushing gallop in a morning before watering.

BRUSINSKOI, in Geography, an island of Rutil, in the lake of Onegskoe; 40 miles S. E. of Petrovskoi.

BRUSKAV, a town of Poland, in the faubric of Braslaw; 40 miles N. W. of Braslaw.

BRUSSEE, Island, lies on the coast of France, in the English channel, below the Seven Islands, and Leman haven and river.

BRUSQUET, Ls, a town of France, in the department of the Lower Alps, and district of Digne; 5 miles N. N. E. of Digne.

BRUSSELS, in Latin Bruxelle, in Flemish Brussel, a large and handsome town, annexed to France, being the chief place of the department de la Dyle. It was formerly the capital city of Brabant, and of the Austrian Netherlands, where the governor-general held his court with all the splendour of royalty. It is situated partly on a hill and partly in a vale, on the banks of the river Senne, which runs through the town. Various etymologies are given to the name of Brüssel: it has been derived from Brugge-Senne, bridge on the Senne; from Breslau, a city in Prussia; from Brussel, a city in England. It is highly probable that the ancient forest of Ardenus extended to this place; and that the present foret de Soigne was part of it. Brüssel was not existing in the 7th century. It owes its origin to a little inn formed by two branches of the river, on which St. Gery, or Gargerie, bishop of Cambrai, built a chapel and preached the gospel to the heathens who were feasted in the vicinity; he died in 619. In 1044, the town, being considerably enlarged, was fortified by a wall, and fortified with towers, by which traces are still remaining. A second, more extensive enclosure, took place in 1379, and now exists, but the town extends itself far beyond it, since many villages have become its suburbs, by a continuity of buildings and streets. Brussels is ornamented by many handsome public structures. The principal church is collegiate, dedicated to St. Guidule, and was built in 1043, but rebuilt between 1226 and 1273. The palace displays considerable taste and magnificence, and formerly contained one of the most beautiful chasels in Europe, which escaped the great conflagration in 1771, but was pulled down in 1777 to make way for the erection of the new square called Place Royale. The town-hall, or guild-hall, was built in 1442; it has a fleche 364 feet high, surmounted by a colossal statue, 17 feet high, of St. Michael with the dragon under...
Plutarch has a dialogue under this title, that brutes use reason (Op. vol. ii. p. 938.). The whole Pythagorean faith should also be of the same sentiment, because the metaphysical imports, that human souls pass into the bodies of brutes. The Stoics also holding that the Divine Being is diffused through all creatures, were necessitated to maintain the souls of brutes to be divine, and, consequently, that they had reason. Among Chaldeans, Lactantius, and the whole body of Manichees and Gnostics, assert the same. Can any person, says Lactantius (Inl. Div. ii. l. c. 10.), deny that brutes have reason, when they often outwit man himself? He allows every thing to brutes which men have, except a fene of religion. Some Sceptics have ascribed religion and virtue to brutes; and they say that Solomon (Ecclef. iii. 18, 19.) seems to affirm us, that the souls of men have no pre-eminence over those of brutes. Sextus Empiricus, in particular (Pyrrhon, l. i. c. 15.), infinuates a comparison between dogs and the human kind. The former exceed the latter as to fene; they have a quicker fcent, by which they pursue beasts that are unseen; they discover them sooner by the eye, and their hearing is more acute. Accordingly it is alleged, that a dog is not deftle of the faculty of reasoning, from the famous instance mentioned by Chrysippus, who observed that a hound coming into a road which separates into three directions, makes choice of the third by virtue of an induction or syphogymnion; because, after having fent in the two ways by which the beast did not pass, he runs straight upon the third without fentiing it; where the reason is obvious: the beast passed either that way, or that way, or this way; but he paffed neither that way nor that way, and therefore this way. See Stanley's Phil. Philof. p. 780. That a dog is posfefled of what they call internal reason, appears, from his choosing things convenient, flying the hurtful, purifying his food, and running away from the whip; and when wounded or fick, acting prudently, as the circumstances of his cafe, and his abilities and opportunities dictate. It has also been argued, though certainly with no great appearance of reason, that we owe the discovery of many medicines, and the invention of many arts, to brutes. Thus, it is faid, that from the fpidir man learned the art of weaving; from the fwhale he borrowed architecture; from the goose swimming, from fhip navigation; from silk-worms feeding; to omit many other inftances of the like kind alleged by Plutarch (De Solert. Animal. Op. tom. ii. p. 674.), Voldius (De Orig. Idol. l. iii. c. 27.), and others. How many actions of brutes, it is faid, are to be obferved, which cannot be accounted for without the fift proccfes of reasoning? If we fay, that dogs, by long habits and force of rewards and punishment, may be taught many things, do not this docility, and remembrance of blows, argue memory, fcare, and defire, which cannot fulfill without knowledge, fene, pleasure, and pain? And if brutes have knowledge, it is allowd that they muft also have judgment and reafon. Thus Carteians, on the other hand, maintain that brutes are mere machines, wholly deftle not only of reason and thought, but of every degree of perception: and that they perform their various functions as mere "automata," excited to motion only by means of animal spirits, which act upon the nerves and muscles. This extravagant and paradoxical opinion Des Cartes has been fubjefted of borrowing from Gomez Pereira, a Spanifh physician, who employed 30 years in composing a treatife, which he entitles "Antoniana Marginata," from the Christian names of his father and mother, published in 1554; but it is more probable, that it was a conclusion originally deduced from his notion of the animal spirits in the economy of human nature. However this be, the notion was revived by Des Cartes, and further affected by Le Grand, d'Armafon, and others of his followers, who were led to adopt this doctrine from

under his feet, which turning on a pivot, acts as a vase. The park in the upper town (anciently part of the forest de Soignes,) is a beautiful promenade, and has a public pleasure-garden in one of its groves. The green walk near the canal has a pleasing appearance, being two miles in length. Besides the place royal, Brussels is ornamented with seven squares or market-places. The principal are the great market, the place St. Michael, the corn-market, the petit fablon, and the grand fablon, where a beautiful fountain was erected by lord Aylebury. In this town are twenty public fountains, adorned with statues; &c. The most remarkable is the manueke pitt, on which is represented a child in brafs, which is to admirably executed, that it has excited the notice of many connoisfeurs, and particularly the elector palatine in 1648, and Lewis XV. In 1747. The population of Brussels is estimated at 90,000. In Tinfent's Statistical View of France, its four parts or cantons are represented as containing 66,297 inhabitants, and including 7½ kilometres, and one commune. It had formerly considerable trade in the manufacture of camlet and tapestry, which is now on the decline: but its lace is still in high estimation, as the most beautiful in the world. Its carpets are also noted all over Europe. This town has suffered frequently by war: it was bombarded in 1695 by marfchal Villeroi; and besieged, in 1708, by the elector of Bavaria, and in 1746, by marfchal Saxe. It was taken by the French in the summer of 1794. Charles II. king of England, and his brother the duke of York, made Brussels their occasional residence during the usurpation of Cromwell. This town has been given to many celebrated men: among others are, Daquenfoy, Vanhelmont, St. Almgodene, Breugh Champain, D'Artois, and other painters. Brussels is 21 miles S. of Antwerp, 26 S. E. of Ghent, and 141 N. by E. of Paris. N. lat. 49° 51'. E. long. 4° 58'.

BRUSSELS, ROGER of, in Biography. See VANDER WEYDE.

BRUSSOW, in Geography, a town of Germany, in the circle of Upper Saxony, and Ucker Mark of Brandenbourg; 12 miles N. E. of Pretzlow.

BRUSTEWALT POINT is situate in the Baltic sea; 3 leagues N. by W. from Koningburg deep, and 16 leagues N. E. by N. from Memel deep.

BRUSZILOW, a town of Poland, in the palatinate of Kio; 46 miles W. of Kio.

BRUTA, in Zoology, is the second order of animals in the Mammalia class, the character of which consists in having no fore teeth in either jaw. The genera of this class are, Brasylus, myristophaga, manis, chrysops, rhinoceros, elaphus, and intichus; which see.

BRUTE, or Beast, a term generally applied to quadrupeds, and also to other animals, and implying inferiority of intellect.

Among brutes, the monkey-kind, both in the external shape and internal structure, bear the nearest resemblance to man. In the monkey-kind, the highest and the most nearly approaching the likeness of man, is the orang-outang, or Homo syzyphus.

Philosophers are much divided about the essential characters of brutes. Some define brute as an animal not rible, or a living creature incapable of laughter; others, a mute animal, or a living thing delusive of speech; the Peripatetics, an animal endowed with a qualitative, but without a rational one. The Platonists allow reason and understanding, as well as fene, to brutes, though in a degree less pure and refined than that of men. Indeed, the generality of the ancient philosophers thought that brutes reasoned: this, among the heathens, was the opinion of Anaxagoras, Porphyry, Celsus, Galen, Plutarch, as well as Plato and others.
from that principle of his philosophy, that the essence of the soul consists in thinking; so that, supposing knowledge and thought in brutes, they must have souls like those of men; the sensitive soul of the Aristotelians being held by him a mere chimera. But Percivai does not appear to have been the first inventor of the doctrine: something like it having been held by some of the ancients, as we find from Plutarch (De Placeit. Phil. l. v. c. 20.), and St. Angolin (de Quant. Anima. Pasch. Invent. Nov. Antiq. c. 3.). Des Cartes was probably led to adopt this opinion of the mere mechanism of brutes in order to obviate two great objections; one against the immortality of the souls of brutes, if they were allowed to have any; and the other against the goodness of God, in suffering creatures who had never sinned to be obnoxious to so many evils. In favour of this opinion it has been argued, that many human actions are merely mechanical, being performed without the perception of the agent, and any direction from his will; and these must be ascribed to the impression of objects, and the original disposition of the machine, in which the influence of the soul has no concern: so that in such circumstances often occurring with regard to actions that are habitual, human beings are no better than automata.

2. Some natural movements of the body are involuntary, that we cannot restrain them, and seem to depend altogether on mechanism. 3. To this mechanism we are also to attribute those likings and antipathies for and against particular objects, which precede knowledge and discrimination, and which are advanced life baffle and counter reason; and they furnish striking proofs of that irresistible influence with which certain objects have on the human frame.

4. Our passions are known to depend on the motion of the blood, and are regulated by the animal spirits between the heart and brain, that are intimately connected by their nerves; and hence it is inferred, that if effects of this kind may be produced by such simple mechanical means as the mere increase of motion in the blood, without any direction of the will, we need not wonder that the actions of brutes should result merely from a refined mechanism, without thought or perception.

5. It has been further urged, that human ingenuity has produced many surprising phenomena by mechanical means, such as are exhibited in automata of human contrivances; and as the mechanism of the body of the meanest animals is infinitely surpass'd that of the most curious machines of this nature, the effects produced by it must be proportionably more surprising. In reply to these arguments, it has been alleged, that they only prove, if we allow their full force, the possibility of the case, that brutes are mere machines, or that the power of God might produce certain actions by mechanism, Uris not that he has actually done so; and, moreover, that if they are admitted, they will prove too much, or that human beings may be mere machines, and not only irrational but insensible too. To the Cartesian hypothesis it has been more directly objected, that the phenomena of perception, foresight, memory, volition, and spontaneous exertion, and of various passions of joy, sorrow, fear, anger, gratitude, love, &c. exhibited by brutes, are inexplicable by any mechanical principles and laws. We have the fame evidence in many cases of the sensibility of brutes when we have of that of mankind; and that they are also endowed with the powers of reflection and reasoning, as well as with affection.

If beasts were automata or machines, they could have no perception of pleasure or pain, and consequently no quality could be exercised towards them; which is contrary to the common sense and observation of mankind, and seemingly contrary to those declarations of scripture, which obviously intimate that they are the objects of severe and of mild and merciful treatment. Prov. xii. 10. Ray's Wisdom of God in the Creation, p. 59.

The late professor Bergmann, in an ingenious treatise, written in German, and entitled "Inaugural disc., &c." or "Researches designed to shew what the brute animals certainly are not, and, also, what they probably are, &c." 8vo. Mentz, 1785, has produced a variety of arguments in order to prove that brutes are not machines. But if they are not mere machines, what are they? manifestly, sentient beings, with an immaterial principle; and thinking, or reasoning beings, to a certain degree. In certain classes of animals this appears evident to the professor, who seems to have observed, with great sagacity and attention, their various operations and proceedings, their ways and means, &c. He thinks it impossible to deduce this variety of actions in any animals (if we except those of the lowest classes in the gradation of intelligence) from a general and uniform instinct; for they accommodate their operations to times and circumstances. They combine; they choose the favourable moment; they avail themselves of the occasion; and seem to receive instruction by experience. Many of their operations announce reflection: the bird repays a shattered nest, instead of constructing, instinctively, a new one; the hen, who has been robbed of her eggs, changes her place, in order to lay the remainder with more security: the cat discovers both care and artifice in concealing her kittens. Again, it is evident, that, on many occasions, animals know their faults and mistakes, and correct them: they sometimes contrive the most ingenious methods of obtaining their ends, and when one method fails, have recourse to another; and they have, without doubt, a kind of language for the mutual communication of their ideas. How is all this to be accounted for (says Bergmann) unless we suppose them endowed with the power of perceiving, thinking, remembering, comparing, and judging? They have these powers, indeed, in a degree, inferior to that in which they are possessed by the human species, and form classes below them in the graduated scale of intelligent beings. But though it seems to him unreasonable to exclude them from the place which the principles of found philosophy, and facts ascertained by constant observation, assign to them in the great and diversified sphere of life, sensation, and intelligence; he does not, however, consider them as beings, whose actions are directed to moral ends, nor, consequently, as accountable and proper subjects for reward or punishment in a futur world.

That brutes possess reflection and sentiment, and are susceptible of the kind as well as the irascible passions, independently of sexual attachment and natural affection, is evident from the numerous influences of affection and gratitude daily observable in different animals, particularly the dog. Of these, and other sentiments, such as pride, and even a sense of glory, the elephant exhibits proofs equally surprising and unquestionable; for which we refer to the article Elephant. The brute creation manifests also a wonderful spirit of sociality, independent of sexual attachment. It is well known that horses, which are perfectly quiet in company, cannot be kept by any fences in a field by themselves; oxen and cows will not fatten by themselves, but neglect the finest pasture that is not recommended by society; sheep constantly flock together. Nor is a propensity to associate restricted to animals of the same kind and size. Influences to this purpose are enumerated in White's Natural History of Selborne, to which we refer the reader. From these influences we may conclude that Milton, when he puts the following sentiment in the mouth of Adam, seems to have been mistaken:

"Much less can bird with beall, or fish with fowl"

So well convert, nor with the ox the ape."
Mr. Locke (Essay, vol. i. p. 120, 145.) maintains, that
the souls of brutes are wholly material; that they do not
possess the power of abstraction; and that the having of
general ideas is that which puts a perfect distinction between
men and brutes. Accordingly, he supposes, that they have
no use of words, or any general sign by which to express
their ideas. It has, however, been a subject of dispute,
whether brute animals have any language intelligible to one
another. Some have pretended, that they have a kind of
language, by which they can make a mutual communication
of their sentiments; and Porphyry relates, that Tiresias and
Apollonius Tyaneus understood this language. There is at
least a similitude of speech in brutes; for they know each
other by their voices, and have their signs whereby they ex-
spress anger, joy, and other passions. Thus, a dog affrights
in one strain, gaws in another, howls in another, and cries
when beaten in another. To us, indeed, their speech, if it
may be so called, appears rude and inarticulate; but perhaps
ours, though understood by them, is the same in their ears.
But if the voice of brutes be unintelligible to us, does not
the same hold of the language of our own kind, till we have
been instructed in it? And the language of foreigners, what
is it but a confused meaningless heap of sounds? Laughter,
as the sign of mirth and joy, has been thought peculiar to
men; and yet we fee somewhat resembling it in brutes,
figured by the motion of their ears, eyes, mouth, and tongues.

Dr. Hartley (see his Observations on Man, p. 239.) has
investigated the intellectual faculties of brutes, and applied
his theory of vibrations and association in accounting for the
inferiority of brutes to mankind, with regard to intellectual
capacities. He abridges the difference existing between
them to the following circumstances, which he has taken
occasion to illustrate on the principles of his theory.
The first of these is the small proportion of size of their
brains, whence brutes have a far less variety of ideas and intel-
lectual affections than men. The second cause of this difference
is the imperfectitude of the matter of their brains, whereby it is
less fitted for retaining a large number of miniatures, and
combining them by association, than man’s. The third
cause is their want of words, and such like symbols; fourthly,
the instinctive powers which they bring into the world with
them, or which rise up from internal causes, as they advance
towards adult age, is another cause of this difference; and,
fifthly, it is partly owing to the difference between the
external impressions made on the brute creation, and on man-
cide. This ingenious writer supposes, with Des Cartes, that
all the motions of brutes are conducted by mere mechanism;
yet he does not suppute them to be deficient of perception;
but that they have this in a manner analogous to that which
takes place in us; and that it is subjected to the same me-
chanical laws as the motions. He adds, that it ought always
to be remembered, in speaking on this subject, that brutes
have more reason than they can show, from their want of
words, from our inattention, and from our ignorance of the
import of those symbols, which they do use in giving insti-
tutions to one another, and to us.

"As brutes," says Dr. Priestley (Disquisitions on Matter
and Spirit, p. 238, &c.) "have the fame external senso\ns that we have, they have, of course, all the same innate ideas
to which we have; and though, on account of their wanting a
sufficient quantity of brain, perhaps chiefly, the combination
and association of their ideas cannot be so complex as ours,
and therefore they cannot make so great a progress in intel-
lectual improvements, they must necessarily have, in kind,
every faculty that we are possessed of. Also, since they evi-
dently have memory, passions, will, and judgment too, as
their actions demonstrate, they must, of course, have the
faculty that we call abstraction, as well as the rest; though,
not having the use of words, they cannot communicate their
ideas to us. They must, at least, have a natural capacity for
what is called abstraction; it being nothing more than a par-
cular use of the association of ideas, of which, in general,
they are certainly possessed as well as ourselves. Besides, if
dogs had no general or abstract ideas, but only such as were
appropriated to particular individual objects, they could never
be taught to distinguish a man such as, a hare as such, or
a partridge such as, &c. But their actions shew, that they
may be trained to catch hares, set partridges, or birds in
general, and even attack men, as well as to distinguish
their own master, and the servants of the family in which
they live. Whether brutes will survive the grave we cannot
tell. This depends upon other considerations than their being
able of reason and reflection. If the resurrection be properly
miraculous, and entirely out of all the established laws of
nature, it will appear probable that brutes have no share in
it; since we know of no declaration that God has made to
that purpose, and they can have no expectation of any such
thing. But if the resurrection be, in fact, within the proper
course of nature, extensively considered, and consequently
there be something remaining of every organized body that
death does not destroy, there will be reason to conclude
that they will be benefited by it as well as ourselves. And the
great misery to which some of them are exposed in this life
may incline us to think, that a merciful and just God will
make them some recompense for it hereafter. He is their
maker and father as well as ours. But with respect to this
question, we have no sufficient data from which to argue,
and therefore must acquiesce in our utter ignorance, satisfied
that the maker and judge of all will do what is right."
fairly interpreted, does not imply that brutes have reason and reflection, but may be understood of that natural instinct common to man and brutes, by which they are impelled to self-defence, propagation of their species, &c.

We shall close this article with briefly noticing the fanciful opinion of father Bouganet, who has laboured to prove, both from reason and scripture, that the spirits of brute creatures are devils. As so many guilty victims of divine vengeance, they are sentenced to endure a variety of evils. By nature, he says, they are extremely vicious; but God, by irreconcilably repudiating them, has, at the same time, divested them of their liberty, so that they can be no longer criminal: an hypothesis equally absurd in its principles and in its consequences.

BRUTIA, in Entomology, a species of Mutilla that inhabits Calabria. Its character is thus described: colour black; thorax rufous; abdomen with six filigrave white spots, and belt of the same. Pctagn. Inf. Cal.

BRUTIA, in the Medical Writings of the Ancients, a term used to denote the fittest and most reinosus kinds of pitch, and such was the most proper for making the oil of pitch, called "oleum piceum." The term is derived from Brutia, or Brutum, the name of the country where it was procured. Plin. N. H. l. xv. c. 7.

BRUTIAN FORSET, in Ancient Geography, now called La Silva, an extensive forest of Brutium or Calabria, which covered a surface of 400 miles in circumference; and from which Hiero, king of Syracuse, and after him the Romans, drew their masts and other timber for shipping. The fame forest is still covered with large woods of pines or firs; but from these extensive woods little benefit is derived, except in turpentine and fuel.

BRUTIUM, one of the two peninsulas of that part of Italy, anciently known by the name of Magna Græcia, which extended to the fronts that separated Sicily from Italy; the other peninsula being called Calabria. Part of it towards the north is now distinguished by the appellation of Calabria Citra, and the more southerly part is designated Calabria Ultra. It was inhabited by the Bruttii, who were slaves of Lucania, that had revolted from their masters, taken up arms, and rendered themselves independent. Some derive their name from a Lucanian term, denoting "Rebels:" but others with greater probability seek the etymology of their name in the nature and productions of their soil. Accordingly, as most of their trees were reinosus, they find in the oriental term "Brata," or as the Syrians write it "Bruta," the origin of the appellation Bruttii. Calabria, it is likewise alleged, has a similar derivation from "Calab." signifying pitch or rein. Their principal rivers were, on the west, Lamatis and Metamus, and on the east, Cæmus, Targines, Neochor and Cratis. Their chief towns, in the west, from north to south, were Pandoria, Conventia, Hippynus, and Rhegium; and, on the east, from south to north, Loeri, Sylacum, Croton, Petilia, and Rosciacium. The "Bruttium promontorium" was that promontory since called "Cabo de Seillo."

BRUTO, JôHN-MICHAEL, in Biography, a polite Italian scholar, was born at Venice about the year 1515; and in the course of his vagrant life, he resided for some time at Padua, afterwards visited Florence, Lucca, and other Italian cities, passed some years at Lyons in France, and travelled into England and Spain. In 1574 he accepted an invitation from Stephen Bocarti, prince of Transylvania, by whom he was employed in writing the history of that country; and after his advancement to the crown of Poland, accompanied him to Cracow. On the death of this prince, he removed to Vienna, and became historiographer to the emperor Rudolph II. He closed a wandering life, in the course of which, notwithstanding the patronage he enjoyed, he never rose above indigence, in Transylvania in 1594. As a writer, he had the reputation of learning and merit; and, though he contended the affection of the Cisromians, his Latinity was pure and elegant. His critical works comprised notes on Horace, Cæsar, and Cicero; but his historical writings are the most valuable. His Florentine history, extending to the death of Lorenzo de Medici, is considered as one of the finest monuments of the age. It was printed at Lyons in 1652, under the title of "Florentia Historia, libri viii. priorum." As it was confinable to the political conduct of the house of Medici, it was industriously suppressed, and few copies of it now remain. His elegant tract "De Origine Venetiarum," his treatise "De Inflauratione Italica," and his "History of Hungary," are preferred in the imperial library at Vienna. Of his smaller printed works, comprising orations, Latin letters, and two treatises, one on the manner of studying history, and the other containing conjugal precepts, a new edition was printed at Berlin in 1698, 8vo. Bayle. Tiraboschi.

BRUTOBRIA, or BRUTOPOLES, in Ancient Geography, a town of Spain in Baetica, situate between the river Buitte, and the country of the Tyritani or Tuttitani. Steph. Byz.

BRUTON, or BREWTON, in Geography, is a pleasant, well-built market-town in Somersetshire, England, situated 113 miles W. from London, and 12 S. from Frome, at the western extremity of the forest of Selwood, and takes its name from the river Brew or Brue, which rising in that forest, passes through the town in its way to Glastonbury. The surrounding country is extremely interesting: the vale are meadows, the declivities orchards, and the eminences sheep-walks. The manor was once the property of Sir Maurice Berkeley, whose younger son John, as a reward for his services to the royal cause, was created by Charles II. lord Berkeley of Stratton. The title became extinct in 1773, and the manor is now in the possession of Sir Richard Colt Hoare, bart. of Stourhead in Wiltshire. On this site was an ancient abbey, founded by St. Algar, earl of Cornwall. The town confits principally of five streets, in the center of which is the market-place, where, till lately, floated a curious old hexagonal market cross, supported by five pillars at the angles, and a larger one in the center. The roof confined wholly of the ribs of arches, which diverged from pillar to pillar, and were finely ornamented with sculpture. This edifice was eighteen feet high, the top flat, and encompased with a stone balustrade: it was built, as Leland informs us, by John Ely, the last abbot of Brewton. The market is on Saturday. In the High-street is a market-house, built by a subscription of the farmers who frequented this market, upon land given them for that purpose by Hugh Saxey, eq. who, from a low station, was advanced to the post of auditor to queen Elizabeth. He died in 1620, possessed of several manors and estates in the counties of Somerset and Gloucester; which, in conformity to his intention, were settled in 1638 on twelve gentlemen of the county for the erection and endowment of a hospital here for the maintenance of old men, women, and boys. The number now supported are eight men, ten women, and twelve boys: the latter are boarded, educated, and apprenticed; and the aged are comfortably provided for. The annual income belonging to this charity is about £200. In the court of the hospital is a statue of the founder, with this inscription:--"Hugh Saxey, eq. founder of this hospital, auditor to queen Elizabeth, and king James." There is also a free-school in the town, instituted by king Edu-
ward VI. and endowed by bishop Fitzjames, and his brother Sir John, lord chief justice. Brutus had a noble family of 333 houses, containing 1631 inhabitants, the greater part of whom are employed in agriculture; for though Leland tells us, that in his time "Brewton was much occupied with making of cloth," yet at present the only manufacture is a little hofery, and silk reeling, at the latter of which three or four hands of young persons are employed. The church, dedicated to St. Mary, is a large structure, and has two quadrangular towers, one occupying the well end, and the other rising from one side of the north aisle. The latter seems to have been the original tower, but the former is the handfomeft. The interior of the church is well ornamented, and contains a great number of monuments. Collinson's History of Somersetshire, vol. i. 410. Maton's Tour through the Western Counties, vol. ii. 506.

BRUTUS, or Brutus, in Biography, the first king of Britain, according to the fabulous relation of Jeffry or Geoffrey of Monmouth. See BRITAIN.  

BRUTUS, Lucius Junius, the founder of the Roman republic, was the son of Marcus Junius, a wealthy patrician, who had married the daughter of Tarquin the Proud, with whom terminated the race of kings at Rome. The father and brother of Brutus were alienated from order of this tyrant at the beginning of his reign; and Brutus himself escaped by feigning idiocy, whence it is said the name of "Brutos" was derived. Under this character he was admitted into the royal palace, brought up with the king's sons, and regarded merely as the object of their divertion. On occasion of a plague which broke out at Rome, Tarquin sent his sons to consult the oracle of Delphi as to the cause and cure of the contagion; and Brutus also was ordered to accompany them for their amusement. The princes prepared magnificent presents for Apollo; but their companion was said to have offered to the god an elder fuck, en- closing a rod of gold, and serving as an emblem of himself. It is further reported, that when the princes made an enquiry, which of them should be king of Rome, the oracle replied, that the government should be reserved for him who should first kill his mother; and that they, interpreting this answer literally, agreed to kill their mother at the fame time, and to reign jointly. But Brutus, interpreting the response of the oracle allegorically, fell down upon the earth, after his return to Italy, and killed it, as the common mother of all mankind. Whatever may be thought of this story, it is certain, that the tragical death of Lucretia (see Lucre- tia) roused the dormant and digested spirit of Brutus; and that, having scratched the poignard out of her bosom, he vowed vengeance on the aggressors, and excited her relations to concure with him in retaliating on Tarquin and his family the dishonour she had suffered, and the lamentable event in which it had terminated. Accordingly they all bound themselves by a solemn oath to execute their purpose, and agreed to follow the counsel and example of Brutus, who seemed now, by a kind of extraordinary inspiration, to have recovered his faculties, and to possess talents, which had hitherto been concealed, fit for conducting their deliberations, and securing their prosperoufs life. The gates were immediately shut, the senate was assembled, and a public decree was proposed and carried for banishing the king, annihilating the royal form of government, and establishing a commonwealth. Brutus, and Collatinus, the husband of Lucretia, were elected as the first chief magistrates of the state, under the denomination of "consuls," an important change in the constitution of the Roman government, which took place in the year of Rome 245, B.C. 506. This change, so hastily concerted and accomplished, although it had obtained the concurrence of the senate, and of the people, excited an alarm amongst those who were attached to the old constitution, and particularly among the young nobility, who were zealous partizans of the dethroned and expelled sovereign. In the number of the malcontents, were the two sons of Brutus, and three nephews of Collatinus. These were active in the conspiracy formed against the new government; and they concurred with others in binding themselves by a very solemn oath to murder the consuls, and to re-establish monarchy. Willill they were conceiving motives for this purpose, the plot was disclosed by a slave to P. Valerius, a patriotic senator, and orders were given for apprehending them. When the sons of Brutus, venerated by the people as their deliverer, appeared before the con- fusion tribunal, the attendent multitude was seized with a general panic; and as soon as they were convicted of the crime alleged against them, the senators, in a kind of confounded murmur, expressed their anxiety and wishes, by uttering the words, "Banish them! banish them!" Collatinius wept, and the stern patriot Valerius was silent. But the father, sacrificing personal feelings to the public good, and apprized of the necessity of suppressing rebellion by an awful example of punishment, with a steady countenance, and firm tone of voice, gave orders to the lictors to execute the law on his sons. The diftrefs of the assembled multitude on this solemn occasion was such as no words can de- scribe; mournful looks and secret groans pleaded for pity; and when the confni seemed to pay no regard to their anxiety and tears, they loudly remonstrated, and exclaimed with one voice, "We give them back to their country, and to their family." Neither the intercessions of the people, nor the plaintive cries of the criminals, could alter the fixed purpoae of Brutus, who witnessed the execution of the sentence; and having seen them stripped, beaten with rods, and beheaded, retired from the tribunal, to indulge, without doubt, those parental feelings which the necessity of the times had induced him to disguise and refrain. Of his conduct on this occasion very different sentiments have been entertained. Whilst some have extolled, others have condemned it. But to the judgment of sober reason, it exhibits a noble example of the triumph of public virtue over private aecceptions; and the display of it required that temper of temper, and those peculiar ideas of the extent of parental authority, which seem to have characterized this ancient Roman. Collatinus was more flexible; and he wished to spare his nephews, and to suppress the evidence which the slave Vinicius had adduced against them. The zeal of Valerius was roused; and whilst the people were tumultuous, Brutus returned, and having again ascended the tribunal, justified his own conduct, but referred the fate of the other criminals to the decision of the people, who concurred in condemning them, and ordering them for execution. Collatinus, however, accused by Brutus for his weakness, and want of patriotism, was obliged to renounce his authority, and to retire to Lavinium, where he lived privately to an advanced age. Upon his removal, Brutus, in order to obviate every suspicion that it was his intention to govern fignly, convoked the people by centuries in the Campus Martius, for the election of a new confunl; and Valerius, afterwards known by the name of "Poplicola," whose meritorious conduct in the discloure of the conspiracy has been already mentioned, was chosen to supply the vacancy. Some difference occurs in the relation of these events by Dionysius of Halicarnassus, Livy, and Plutarch; but they all agree in the principal fact, respecting the con- duct of Brutus towards his sons. During the confunlate of Brutus and Valerius, Tarquin and his partizans made some vigorous
vigorouso effots for regainino the throne of Rome; and, joined by the Veientes, the avowed enemies of the Romans, they advanced towards the city. But they were met by the confuls at the head of the Roman forces; the command of the horse being assumed by Brutus, and that of the infantry by Valerius; the horse of the enemy, commanded by Arunx, one of Tarquin's sons, came forward to the charge; and as the hostile armies approached each other, Arunx discovered Brutus, attended by his lictors; and inflamed with resentment, he exclaimed, "There is the enemy of my family, the usurper of my father's throne." He then immediately advanced to a personal encounter, and Brutus flew to meet him. Actuated by passion, more than by cool courage, these two champions, neglecting the means of personal defence, transfixed each other with their spears, and at the same instant fell dead from their horses. This happened in the year B.C. 50. The conflict, thus commenced, terminated in a victory on the part of the Romans; and, as soon as it was decided, Valerius buried his colleague Brutus with great pomp, and gave Rome the first example of those funeral orations, which it was afterwards customary to pronounce in commendation of their great men. The Roman matrons distingiuished themselves on this occasion; for, regarding Brutus as the avenger of the honour of their sex, they mourned for him a whole year; and his statue was afterwards erected in the capital, with a naked sword in his hand. The Romans venerated his memory, as that of the second founder of their city, who had restored liberty to their country, cemented it by the blood of his own sons, and died in defending it against an usurper; and they considered him as having undergone more hardships and dangers in establishing the commonwealth, than Romulus had done in first founding the kingdom. Virgil has nobly sketched his history and praise in the following lines:

"Confus imperium hic primus saxaque secures
Accipiet: natoque pater, nova bella moventes,
Ad pamen pulchra pro libertate vocabit.
Infelix! uetiumque serent ea facta minores;
Vincit amor patriae, laudumque immena cupido."

Æn. VI. 820.

"He first shall hold the conful's sway, and wield
The dreaded axes; he, a Roman sire,
For thee, fair Liberty! his rebel foes
Shall doom to public death. Unhappy man!
How'er pitioufly the deed may judge,
His country's love, and boundless thirst of praise,
Shall quell the father."


BRUTUS, M. C. JUNIUS, an illustrious Roman, derived his name and descent, as some have said, as well as his spirit, from L. J. Brutus, the subject of the preceding article. Cicero records this line of his descent, both in his speeches and writings, as a fact, which was not doubted by any; and he often speaks of the "image of old Brutus," which Marcus kept in his house among those of his ancestors; and Atticus, who was peculiarly curious in the antiquities of the Roman families, drew up Brutus's genealogy for him; and deduced his sucession from that ancient hero, in a direct line, through all the intermediate ages from father to son. Plutarch also, on the authority of Pofidonius the philosopher, was of the same opinion. Other ancient writers, however, and particularly Dionysius of Halicarnassus, allege several arguments against this descent, which seem to be very plausible; and they lay that the family of the patriot was extinct in the execution of his two sons. However this be, M. J. Brutus was the son of a senator of the same name, who belonged to the party of Marius, and who was put to death for his feverities by Pompey at the surrender of Mutine. His mother was Servilia, the sister of Cato, who disgraced herself by her connexion with Cesar, which gave rise to the opinion that Brutus was his natural son. But as he was born in the consulship of L. Cornelius Cinna III. and Cn. Papirius Carbo I. A. U. 668, he was no more than 15 years younger than Cesar himself; and this circumstance fully confutes the vulgar story of his being commonly believed to be Cesar's son. As Brutus lost his father, when he was young, the care of his education devolved on his uncle Cato; under whose direction it was conducted on that liberal plan which prevailed among Romans of distinction, after their connection with Greece. He studied the language and philosophy of that country; and he acquired, by means of his natural talents and diligent application, a distinguished reputation for eloquence. At the bar and in private assemblies his rhetorical powers were exercised; he pleaded several causes of great importance, and he was allowed to be the most eloquent and learned of all the young men of rank and family at the period in which he lived. His manner of speaking was correct, elegant, and judicious; though he wanted that force and copiousness which are required in a consummate orator. But he was principally delighted with the study of philosophy, in which, though he professed himself a disciple of the moderate sect of the old academy, he nevertheless, from a certain pride and gravity of temper, and from a deference to the example of Cato, affected the severity of the Stoic. His disposition, however, which was mild, gentle, and compassionate, was incompatible with this system; and he was often constrained, by the tenderness of his nature, to confute the rigour of his principles. On the doctrines of the philosophy which he had adopted, he wrote some treatises, and he transfigured both the language and sentiments of his sect into Latin. His accomplishments as a scholar and an orator are sufficiently attested by Cicero, who has done him the honour of introducing him as one of his speakers in his dialogue "De Claris Oratoribus," and addressed to him his treatise entitled "Orator." Attached to Cato from his youth, he imbibed, under his discipline, an ardent love of liberty and virtue; and having accompanied him in his expedition to Cyprus, where he was employed by his uncle, after the unhappy end of its king, Ptolemy, in securing the royal treasures for the public. This commission he executed to the satisfaction of his uncle; and by marrying his daughter Portia, he formed a closer alliance with this venerable patriot, and was led to make him the model of his public conduct. Accordingly, after his example, when the civil war broke out between Cesar and Pompey, he joined the party of the latter; although he had reason to regret his conduct for the murder of his father; and Cesar's familiarity with his mother induced him to manifest a partiality in favour of her son. At the battle of Pharsalia, in which Brutus was engaged on the side of Pompey, Cesar gave special orders to find out and preserve him unharmed; and after this battle, which terminated the republic, he surrendered himself to Cesar, who rejoiced in his safety, and immediately received him into favour, testifying his regard for him by pardoning his friend Caius at his intercession. Cesar entrusted him with the government of Cisalpine Gaul, and afterwards nominated him pretor of Rome. Notwithstanding the gratitude and respect he was thus induced to entertain for Cesar, he was alarmed by his usurped dominion, and a view of the degraded state into which his country was reduced by the violation of the laws and constitution, excited a disgust which no favours could compensate. At the same time, Caius, who had married his sister, was affluent in endea-
BRUTUS.

mindful to kindle the flame of patriotism in his breast. He
cautiously handed on his sanguine, 
Julius Brutus,
the Roman history, and led him to believe that the
Romans expected his affirming the heretical office of ref-
cusing him from a senator. Their arguments at length pre-
ved, and Brutus agreed to take the lead in a conspiracy
against Caesar’s life. His character induced several other
Roman senators to join in the design; and they resolved
to execute it on the 2d of March (March 15) B.C. 44.

It is said, that when Cicero saw his beloved
Brutus among the conspirators, with his dagger drawn
against him, he delibed from any further self-defence,
wrapped his h. in his mantle, and surrendered himself to
his fate. 

Avenged from his colleagues, Brutus, by impious
forbearance, permitted Antony to escape; and by
retribution to the laments of Caesar’s will, by the
pompous solemnities of his funeral, he furnished Antony
with a pretext for exciting the minds of the people to a
revenge for his memory, and a detestation against
his murderers; in consequence of which he and his party
were obliged to secure their lives by retiring from Rome to

Afterwards, when Octavius joined Antony, and
they concurred in affirming the sovereign power, he and his
faithful Parthia quitted Italy, and set sail for Athens. Here,
by convenient intervals, he renewed the prosecution of his
philosophical studies; whilst at the same time he secretly
prepared for war, and sent a messenger to Macedonia, to en-
courage the Romans of that province in the party of the
republic, and to facilitate his admittance into it as governor for
the senate. Having obtained a complete supply of men, arms,
and money, he marched into Macedonia; and gained suffi-
cient of the army, and of the persons, of Caius, the brother
of Antony, who had been deputed to seize Dymecium
and Apollonia.

When Octavius became sole master of Rome, he pro-
ceeded to the condemnation of all who had been concerned
in the murder of his adopted father; and the names of
Brutus and Cassius were enrolled, much to the regret and
grief of the people, in the bloody roll of proscription.

They, however, were at this time in the command of powerful
armies, which speedily formed a junction at Smyrna.
Having performed some separative services in the subjugation
of those maritime powers, the Rhodians and Lydians, they
met again at Sardis; and determined to direct their march to
the frontiers of Hellespont, in order to pass over into Europe,
for the purpose of opposing the progress of Antony and Oc-
tavius, who had now arrived at Macedon. It was in the
course of this march that the frightful apparition, recorded
by Plutarch and other historians, presented itself to Brutus,
and which, under the appellation of his evil genius, an-
nounced another visit to him at Philippi. Cassius ascribes
this phenomenon to the illusion of a troubled imagination,
under the influence of anxiety and bodily fatigue; and if it be
ting more than an idle fabrication, to this cause it may be
reasonably attributed. On the plains of Philippi
the hostile armies assembled for the decision of the inte-
rating conflict. Brutus and Cassius having settled their plan
of conduct, if the issue of this conflict should prove unfa-
vourable, they prepared for action. In the first battle
Brutus defeated Octavius, but in the armor of the con-
tell he lost Cassius unsupported, and thus occasioned his de-
fay and death. This event he grciously deplored, and
shedding many tears over the body of his friend, bewailed
the loss of him under the honourable appellation of “the
laft of the Romans.” He had now the sole command of
a numerous and mutinous army; which compelled him to rift
another engagement, having first put to death all the lives

whom he had made prisoners, and having promiscd to
his soldiers, in case of victory, the pillage of Chersonesia and
Lacedaemon. In the second battle the wing of the
army which he commanded routed that of Octavius, while Antony de-
feated the other committed to the conduct of Cassius’s unit-
tant. But, instead of pursuing this advantage by follow-
ing the fugitives, this experienced general availed himself of
it by turning round on the rear of Brutus, and entirely
breaking and dispersing his troops. Brutus having escaped
being made prisoner by the heroic friendship of Lucilius,
who surrendered himself under the name of Brutus, and who
was generously favored by Antony after the discovery of the
fraud, fled with a few friends to a retired valley, where he
spent an anxious night. With the returning dawn, he per-
ceived that he was surrounded by the enemy, and conjured
some of his dependants to put an end to his life. Upon their
refusal, he dismissed them with a request that they would
provide for their own safety; and he then renewed his app-
clication to Strato, an Episcopi, and his former fellow stu-
dent; but Strato perished in his denial, till Brutus called
upon a slave to perform the fatal office. Upon this the

terous Greek exclaimed, “Forsake it, Gods, that it
should ever be said, that Brutus died by the hand of a
slave for want of a friend!” and covering his face with his left

hand, presented with his right his sword, upon which Brutus
threw himself with such violence that it pierced through
his body, and he instantly expired. Thus perished, in the
43d year of his age, according to Cicero, but in the 47th
according to Velius Paterculus, one of the most irrepro-
achable characters in Roman history; according to Blair’s
table, A.U. 712, B.C. 42.

To his generosity, humanity, uprightness, and well-
principled virtue, public and private, writers of all parties
have borne testimony; and those who have condemned the
act of assassinating Caesar, have ascribed it, on the part of
Brutus, to patriotic motives. Indeed, Antony himself did
him the justice to say, that “was the only one of the con-
pair who entered into it out of principle; that the rest,
from private malice, rose up against the man, he alone
against the tyrant.” No man in public life seems to have
set up virtue more sincerely as the object of his veneration
and pursuit than Brutus; and it does not, therefore, seem
probable, that, according to the report of some writers, his
final speech should be a confession of error in having followed
an empty name. “His memory,” says one of his biographers,
“was cherisned and honoured as long as a spark of Roman
spirit survived the loss of constitutional freedom; and the
names of Brutus and liberty are to this day inseparably
associated.” His body was treated with respect by Antony;
but the vindictive Octavius caused the head to be cut off,
in order to expose it at the feet of Caesar’s statue. But
his delination was defeated, as it was thrown over-board in a
storm. The remains were honourably burnt by order of
Antony, and the ashes interred in the same sarco.

Plutarch’s Brutus, apud Op. t. i. p. 984. Middleton’s Life of Cicero,

BRUTUS, in Entomology, a species of Papilio (Eg.
Actio.) The wings are white with a black border; on the
lower pair beneath, a fulvous band. This inhabits Africa;
where it is the large and rare insect. Cramer describes a variety
of it under the name of Meropa.

BRUTUS, in Geography, a military township of America,
in New York, through which runs the river Seneca, and
where it receives the waters of Oswego lake, passing from
the south-east through the town of Aurelius and Scipio. It
lies 11 miles N.E. from the north end of Cayuga lake,
and 19 S.E. from lake Ontario.

BRUTUS,
BRUTZ, a town of France, in the department of the Ille et Vilaine, and district of Redon, 2 leagues south of Rennes.

BRUX. See Bruxel.

BRUYE or BRUX, an island in the bay of Bengal, near the mouth of the river Awa, about 8 leagues long and 3 broad. Lat. 16° 15'. E. long. 97° 37'.

BRUYER, John De L, in Biography, a French writer of reputation, was born, in 1646, in the life of France, and, at a proper age, recommended by Bossuet to instruct the duke of Burgundy in history. The residue of his life was passed in court, where he maintained the character of a man of letters; philosophical and unambitious in his temper, as well as polite and polished in his manners, uniting the gaiety and social polish of the well-bred gentleman with the laborious habits of the scholar. In 1664 he was admitted into the French Academy, and, in 1667, a fit of apoplexy terminated his life. His work entitled "Characters of Theophrastus, translated from the Greek, with the Characters or Manners of this Age," was first published in 1657, and has been several times reprinted. In this work, of which Malzick predicted that "it would gain many readers and many enemies," the author has had the honour of participating with Malvise in the correction of more follies and indecencies than perhaps any other moralist, ancient or modern. The pencil with which he pictured modern characters and manners is strong but delicate; his style is nervous but abrupt, occasionally obscure, and affectedly sententious. The maxims of Plutarch are almost wholly transplanted into his works. Keys were made of his characters, for the court, the capital, and the provinces; and his book, by means of its success, produced many imitations. The best editions of the "Characters" are those of Amsterdam in 1741, and of Paris in 1752 and 1769. The authors "Dialogues of Quietism," were arranged for publication by M. Du Pin, and printed in 1699. Nov. Dict. Hill.

BRUYRES, in Geography, a town of France, in the department of Eure, and chief place of a canton, in the district of Seine, 11 miles E. of it. The town contains 1911 and the canton 13,435 inhabitants; the territory includes 210 square miles, and 32 communes. Nov. Dict. Hill.

BRUYENS SOUS LAON, a town of France in the department of the Aisne, and district of Laon, 1 league S.S.E. of Laon.

BRUYN, Cornelius L, in Biography, a traveller and painter, was born at the Hague, and having commenced his travels through Mulcovy, Persia, the Levant, and the East Indies, in 1670, completed them in 1708. His "Voyage to the Levant" was published at Amsterdam in 1714, folio, and his "Travels to Mulcovy, Persia, etc." in 1718, in 2 vols. fol.; an edition much enlarged for the beauty of its plate, but excelled in value by that of Rouen in 1725, in 2 vols. 4to. on account of the corrections and notes of the Abbé Banier. As a traveller, Bruyn is curious and instructive, but his style is inelegant and his facts sometimes erroneous. Nov. Dict. Hill.

BRUYNSWICK, in Geography, a plantation of America, in Ulster county, New York.

BRUYS, Peter De, in Biography. See PETROBRUSIANI.

BRUZEN DE LA MARTINIERE, Antony-Augustus, an industrious compiler, was born at Dieppe, in 1666, and educated at Paris, under the care of his uncle, the celebrated Richard Simon. In 1700 he was employed, by the duke of Mecklenburg, in researches into the history of that duchy, and afterwards attached to the duke of Parma, and to the king of the Two Sicilies, who appointed him his secretary with a handsome salary. Upon his retirement to the Hague, he completed his "New Geographical Dictionary," which was dedicated to the king of Spain, and recompensed by the title conferred upon him by that monarch, of his first geographer. After a life of study and labor, as well as of social intercourse and pleasure, fitted to his friendly disposition and polite manners, he died at the Hague in 1749. His reading was extensive, and he wrote with judgment, facility, and generally with elegance. His favourite themes were geography, history, and polite literature. The most valuable of his numerous works are "The Great Geographical, Historical, and Critical Dictionary," 10 vols. fol. Hague, 1726 to 1739, and Paris, 1756, 6 vols. fol.; "Polledorff's Introduction to the History of Europe, greatly augmented and corrected," of which the last edition is that of the Hague, in 11 vols. 12mo; "Geographical and Historical Tracts to facilitate the Knowledge of the Holy Scriptures, by several celebrated Authors, Huet, Le Grand, Calmet, Hardouin, &c" 2 vols. 12mo. 1730; and "Selections of M. Simon," with a life of the author and curious notes, Amst. 4 vols. 12mo. Nov. Dict. Hill.

BRVA, in Botany, (Browne Jam.) See Amer immunity Eburnus.

BRYAN, in Geography, a county of America, in Georgia, adjoining Chatham county on the west and southwest.

BRYANT, Jacob, in Biography, the son of a Customs officer at Plymouth, was, for the honour of Devonshire, born there; though he has been represented by some as a native of Kent, from the circumstance of his father's being transferred to that county whilst himself was a child.

Placed upon the foundation of Eton college he was early distinguished for classical attainments; and the high reputation with which he entered King's served as an incentive to his future exertions. Succeeding at the ordinary period to a fellowship in that college, he continued its ornament till nearly the end of the century, and the boast of both institutions to the close of his life. Having devoted himself early to habitual study, he persevered with but few interruptions; and these are to be considered as referring rather to a change of subject, than a breaking off from his ordinary pursuits; for, during his secretaryship to the duke of Marlborough and the Board of Ordinance, he availed himself of the opportunities which his employments afforded for rendering his knowledge in modern tactics subservient to that of the ancients. As he attended the father in the capacity of secretary during his military commands, so he accompanied him to the seat of the Muses; and, in the office of private instructor, superintended his studies while at Eton of the present duke of Marlborough, as well as those of his brother Lord Charles. Devoting himself to a life of literature, his diligence was unremitting in his favourite pursuit, and the effects of it were consecrated to the noble purposes of learning and religion.

The first work which he formally published was "Observations and Enquiries relating to various parts of ancient History, containing Diffusions on the Wind Euroclydon, and on the Island Melic; together with an Account of Egypt in its most Early State, and of the Shepherd Kings," 1767. Those who knew Mr. Bryant formed considerable expectations from his acknowledged reputation, when this volume was announced; nor were they disappointed in its appearance. The opinion entertained of his learning was confirmed by it, and the ingenuity displayed in it acquired him considerable commendation.
His next communication to the public, and the work on which his character as a scholar must ultimately rest, was his "New System, or Analysis of Ancient Mythology; wherein an Attempt is made to divest Tradition of Fable, and to reduce Truth to its original Purity." Of this publication the first and second volumes came forth together, in 1774, and the third followed two years after. It being his professed design to present a history of the Babylonians, Chaldæans, Egyptians, Canaanites, Hellenes, Ionians, Læges, Dorians, Pelasgi, and other ancient nations, his researches for this purpose were not only of necessity confine to, but in many instances uncertain; but to facilitate his paillage through the mighty labyrinth which led to his primary objects, he not only avoided himself of the scattered fragments of ancient history wherever he could find them, but also of a variety of etymological aids; for being perfused that the human race were the offspring of one flock, and conceiving thence that their language in the beginning was one, this favourite notion was emblemed by him in the investigation of radical terms, and applying these as collateral aids. Considering that his knowledge of the Oriental dialects was very confined, it is to be lamented that upon some occasions he has indulged too freely to fancy; yet thus much must be confessed, that his defects in this kind of learning form a strong plea in his favour; for if, without underdertaking these languages, he has succeeded in tracing out so many radicals as his table of them exhibits, and more especially if he has been right in explaining them, it will follow that his explanations must be founded on truth, and therefore are not chimerical. In opposition, however, to them, Mr. Bryant experienced some severe and petulant attacks: first, from a learned Dutchman, in a Latin review of his work; and shortly after from the late Mr. Richardson, who was privately allied by Sir William Jones; a circumstance which there is reason to think Mr. Bryant never knew.

To their strictures Mr. Bryant replied in an anonymous pamphlet, of which he printed a few copies for the perusal of his friends, but never professedly published. It is hoped, however, that, in the next edition of his Mythology this tract will be added, as it is among the best of his works.

Amongst other parts of the Mythology which were attacked with asperity, that which relates to the Apamean medal was severely affailed. Mr. Bryant defended himself in a separate publication (which also should be subjoined to the new edition); and though what he offered on the subject was lightly treated by some, who highly appreciated their knowledge of medals, yet the opinion of professor Eckel, the first medalist of his age, has decided on the controversy in favour of Mr. Bryant.

Whatever may be the merit, in the opinion of the learned, of Mr. Bryant's New System at large, no person can possibly dispute, that a very uncommon store of learning is perceptible through the whole; that it abounds with great originality of conception, much peripatetic elucidation, and the most happy explanations on topics of the highest importance: in a word, that it stands forward amongst the first works of its age.

About this time the Vindicæ Flavianæ, a tract on the much disputed testimony of Josephus to Chrifti, was printed, and a few copies sent to a bookseller in either university; but as the pamphlet appeared without the name of its author, and no attention was shewed it, Mr. Bryant recalled them, and satisfied himself with distributing the copies thus returned amongst a few particular friends. The new light, however, which Mr. Bryant threw upon the subject, and the acuteness with which the difficulties attending it were difcussed, soon caused the Vindicæ to be known, and at length to be published with his name.

Dr. Prieſley having, by his statement of the doctrine of philosophical necessity in a left exceptional point of view that in which it had been heretofore seen, attracted attention to the subject, Mr. Bryant was alarmed at the pernicious tendency, as he conceived, of the doctrine; and with the design of checking its advancement, addressed the Doctor on the subject. But whatever impression this address might have produced on other readers, it certainly left his antagonist unconvinced; which, however, was not the case in a former instance, for Mr. Prieſley liberally confessed that, in respect to the testimony of Josephus concerning our Saviour, Mr. Bryant had made him completely a convert.

The poems attributed to Rowley having been published by Mr. Tyrwhitt, Mr. Bryant's attention was next drawn to them. From the communications of his friend Dr. Glynn, and his own enquiries at Britol, Mr. Bryant having acquired such information as convinced him, that they had their foundation in reality, and were not entirely of Chatterton's fabrication, embodied in the context; but though he failed to produce conviction in several particulars, his book discovers considerable talent, as well as much knowledge of English antiquities and literature, and abounds with arguments which cannot be repelled.

The hypothesis of Mr. Bryant in reference to the original language was always kept in view by him, and as researches were extended on all sides to obtain elucidations, the language of the gipies engaged his attention; accordingly the collections which he made from it, were published in the Archaeologia, vol. vii.

His next production, but which still remains unpublished, was an illustration in Latin of gems in the possession of the duke of Marlborough, engraved for his Grace by Bartolozzi. Of this magnificent work Mr. Bryant's observations formed the text of the first volume, that of the second was written by Dr. Cole, prebendary of Westminster.

The friendship which subsisted between Mr. Bryant and the family of his patron, prompted him on all occasions to subserve their wishes, and to this disposition are the public indebted for his Treatise on the Authenticity of the Scriptures and the Truth of the Christian Religion, which was written to gratify the dowager lady Pembroke, and is an excellent book for popular instruction.

In two years after (for the treatise just mentioned appeared in 1752) the world were obliged by a large volume, entitled "Observations upon the Plagues inflicted upon the Egyptians; in which is shewn the Peculiarity of those Judgments, and their Correpondence with the Rites and Idolatries of that People; with a Prefatory Discourse concerning the Grecian Colonies from Egypt." This is certainly to be reckoned amongst Mr. Bryant's best performances, and as such will be judiciously read.

Professor Dalzel having communicated to the Royal Society of Edinburgh, and afterwards published in a separate volume, M. le Chevalier's "Description of the Plain of Troy," Mr. Bryant, who many years before had not only confidered, but written his sentiments on the Trojan war, first published his observations on M. le Chevalier's treatise, and afterwards a dissertation concerning the war itself, and the expedition of the Grecians as described by Homer; with the view of shewing that no such expedition was ever undertaken, and that no such city in Phrygia existed. [The elegant treatise of Mr. Wood on the genius and writings of Homer, were edited, for his deceafed friend, by Mr. Bryant.]
The clamour excited by these pamphlets almost exceeded belief. The author was attacked in all companies without mercy, and even by men from the prefs, who should have thought more soberly, for having indulged so excessive a scepticism, as could not, in its most direct effects, but be pernicious to the cause of divine revelation. Such cenfures, however, when duly weighed, could be disgraceful only to their authors, whose want of temper, or of judgment, rendered them unable to discriminate.

Amongst Mr. Bryant's principal opponents were Mr. Gilbert Wakefield, Mr. Morrit, and Dr. Vincent: but though the champions for the war strenuously affiled their antagonists, several of Mr. Bryant's objections remain as yet unanswered.

In the following year Mr. Bryant submitted to the public a work of a different kind and character, under the title of "The Sentiments of Philo Judeus concerning the Logos, or Word of God, together with large Extracts from his Writings, compared with the Scriptures in many other particular and essential Doctrines of the Christian Religion." But, learned and curious as this treatise unquestionably is, it appears to have interfiled the general reader less perhaps than any of his other productions. In addition to those already noticed may be added his "Observations on famous controverted Passages in Justin Martyr and Iosephus," and a pamphlet addressed to Mr. Malmoth, written with less temper than might have been wished. Mr. Bryant closed his labours with a quarto volume of Dilletations on the prophecy of Balaam; the flanding still of the sun in the time of Joshua; the jaw bone of the as with which Sampson flew the Philistines; and the history of Junah and the whale: subjects in themselves exceedingly curious, and treated with much ingenuity; but these tracts upon them having been written above thirty years before, Mr. Bryant in reviving so altered, as, through a defect of memory, to render the remarks in one part inconsistent with those in another, which materially diminished the value of the whole.

Other writings to a considerable extent still remain in the hands of his executor, who is said to have submitted them for publication to a competent judgment.

In forming a general estimate of Mr. Bryant's literary character, it will be found that, as a classical scholar, he had few equals; his acquaintance with history and the topics of general information was of very uncommon extent, but from the want of Oriental literature and the fiercest sciences he yielded too often to the impulles of a vigorous fancy. It will, notwithstanding, be found from repeated perusals of his writings, that he deservedly ranks amongst the foremost of his age; and from having consecrated his great talents and acquisitions to the service of mankind, will be ever entitled to the veneration of mankind.

In his person Mr. Bryant was lower and more delicately formed than men in general, and consequently less capable of strong exercise; but, in early life he had great agility, particularly in swimming, a circumstance which enabled him to save Dr. Barnard, afterward head master of Eton, when drowning. In his ordinary habits of life he was remarkable for his temperance, and though his time and studies were principally devoted to literature, and the pursuit of truth, yet his conversation with those he received and conversed with was uncommonly flirtel, as he never failed to mix entertaining anecdote with instruction. In his peron he was particularly neat, and in his deportment courteous. His liberality was often conspicuous, and the spirit of religion diffused itself through all his actions. As few comparatively live so long, infancies of such exemplary merit can but rarely be found. Elected from Eton to King's, in 1736, he proceeded bachelor of arts in 1741; in 1744, took the degree of master, and died, after a long residence, at Copenham, near Windor, on the 11th of November, 1804, of a mortification in his leg, occasioned by a hurt from the tilting of a chair in reaching down a book from its shelf. At his own desire, Mr. Bryant was interred in his parish church, beneath the seat he there occupied.

BRYANT'S Cove, in Geography, lies on the east coast of Newfoundland, half a league S.W. from Harbour Grace, and two and a half leagues to the south-west of Spanish bay, in which there is good fishing for boats.

Bryant's Lick, a south-east branch of Green river, the mouth of which is about 27 miles E. of Craig's fort, and 10 E. of Sulphur spring, in Mercer's county, Kentucky.

BRYANTHUS, in Botany (Gmel. Sib.) See Andromeda bryantii.

BRYE, John Theodore de, in Biography, excelled in the art of designing and engraving. He was a native of Liege, but resided chiefly at Franckfort, where he carried on a considerable commerce in prints. His table was formed on the works of Sebald Beham. He seldom used the point, but worked almost wholly with the graver. His style of engraving was neat and free, excellently adapted to small subjects, comprehending many figures; such as funeral processions, &c. His drawing was very correct: his heads spirited and expressive, and the other extremities of his figures well marked. His back-grounds, though flight, are admirably touched. He died March 27, 1598. His great works were the plates for the first four volumes of Boiffard's Roman Antiquities; the plates for illustrating the Manners and Customs of the Virginians, copied by Pi- cart in his Religious Ceremonies of all Nations; the plates to the Latin Narrative of the Cruelties of the Spaniards in America, published in 1598, and his "Description Indicibus Orientalis et Occidentalis," 5 vols. fol. 1598; and among other detached prints his "Procession for the Funeral of Sir Philip Sidney," engraved at London, 1578. Strutt.

Brynnaus, Nicephorus, was a native of Orelia in Macedonia, and married the princes Anna Commena, daughter of Alexius Comnenus, who raised him to the rank of Caesar, but declined announcing him as his successor in prejudice of his own son. After the death of Alexius, the empress Irene and her daughter Anna attempted to elevate Brynnaus to the empire, but he refused to concur in the plot. Having been feit, in 1137, to besiege Antioch, he fell sick, and returning to Constantinople died in that city. His history of the reigns of Isaac Comnenus and of the three succeeding emperors, was composed in four books, and published with a Latin translation, by the jefuit Pouffines at Paris in 1661, to which the annotations of Du Cange were annexed in 1676.

Brynnaus, Manuel, the laus writer on music in the Greek language that has come to our knowledge. He flourished under the elder Palaeologus, about the year 1320; and it is probable that he was a descendant of the house of Brienne, an ancient French family, that went into Greece during the Crusades, at the beginning of the thirteenth century. Fabric. Bib. Gr. Du Cange, Fam. Bryant.

The work is divided into three books, all which are confined to harmonics: the first is a kind of commentary on Euclid; and the second and third little more than explanations of the doctrines of Polymy.

Melobonius had promised a Latin translation of this work, but dying before it was finished, Dr. Wallis performed the talk, and it now constitutes a part of the third volume of his works, published at Oxford in 2 vols. fol. 1690.

That the Greek music had undergone many alterations since
since the ancient treatises which are come down to us were written, is certain from the change and increase of its vocabulary. Bryonian (lib. iii. sect. 3) has given as names of intervals, a list of barbarous terms not to be found in any preceding writer within our knowledge; and in the Greek glossary of Du Cange, and the Abate Martin's papers on the present use of Greece, a great number occurs that is not to be found either in writers of high antiquity, or in Bryonian: as lib. iii. sect. 4, the words τηρηται, χρησται, appear for ρουρες and ὑλόμοι; and τήται, δίκαιον, τηλέμα, τει-τηνα, are used to distinguish the modes or tones: a proof that he was a modern Greek. Padre Martin is of opinion

BRYONIA, in Botany, (Bryonia, Dioscorides; from ἄδος, germin, pululo, expressive of the vigorous and rapid growth of its annual stems from the perennial root.) Lin. gen. 1003. Reich. 1594. Schreb. 1486. Gartnert 531. Jullius 394. Ventenar. vol. iii. 511. Claph. monsia ignea. Pentandria. Smith. Nat. Ord. succulentes. Linn. & Jull. Gen. char. Male flowers. Cal. Perianth one leafed, campanulate, five-toothed; teeth oval-shaped. Cor. five, parted, campanulate, fastened to the calyx; divisions ovate. Stam. Filaments three, very short, two bearing each two anthers, and the third with only one. Female flowers. Cal. Perianth as in the males, superior, deciduous. Cor. as in the males. Pist. Germ. inferior. Style trifid, the length of the expanding corolla; stigma marginal, peltate. Peric. Berry subglobose, smooth. Seeds, not numerous, fixed to the coat, subhovate. Schreb. Not more than six, inclosed in their proper cells. Gart. Species. 1. B. alba. Linn. "with black berries, and the inward substance of the root of a pale box colour; leaves palmate, callous-febrons on both sides." This species, though mentioned by many of the old botanists, does not seem to be much known since the time of Linnaeus. La Marec observes that he knows nothing of it, and seems to speak with some degree of doubt with respect to its exit-

ence. In this, however, he is certainly wrong: it must have been known to Linnaeus. Boeuf says that it is a truly distinct species, but gives no description. It appears to be confined to the north of Europe, and not to be found in England or France, for though Plucknett speaks of it as not unfrequent at Cambridge, he was probably mistaken; it had not been observed by Ray, nor has it been found since in that neighbourhood by Professor Martyn, nor in any other part of Great Britain. 2. B. dioica. Jacq. Aud. t. 139. Hall. Helv. 574. Allom. Ped. 475. Pollux. pal. 915. Ray hift. 659. Syn. 261. Huds. Ang. 437. Smith Flor. Brit. 398. Eng. Bot. 439. "Berries red; root yellow with white within; leaves palmate, callous-febrons on both sides; flowers dioicos." Root large, fleshy, white. Stema annual, scendent, angular, rough, leafy, somewhat branched, very long. Leaves alternate, petioloed, palmate, five-lobed, angular, rough on both sides, with minute cal-


The leaves in autumn have the smell of mulf. Smith. The roots have been artificially made to assume a human shape, and known to the common people as roots of the celebrated mandrake. Atropa Mandragora, to which many fanciful virtues have been attributed. For this purpose the earth is removed round the root of a thriving young plant, so as not to disturb the lower fibres, and a mould, such as is used for platter figures, is made falt with wires to receive the growing woody part of the root; the earth is then replaced; and in the course of a summer a root of the required shape is produced. 3. B. palmata, Linn. "Leaves palmate, fovea, five-lobed, repand-ferrate." Root perennial. Berries yellowish, globular, rather large. Native of Ceylon. Introduced into England in 1778, by Meffrs. Gordon and Grefier. 4. B. laciniata, Linn. Gart. tab. 88, fig. 2, copied by La Marec. pl. 796, fig. 2. "Leaves palmate; divisions lanceolate, ferrated, petioles mucratae." Root perennial. Leaves cordate, palmate, rough above, rougher beneath on the rib and nerves. Petioles almoit prickly; not peduncules as it stands in the Botanica, as copied by Reichard, and translated without a comment by La Marec. Corolla yellow, hairy, or tomentous within, smooth without. Germ fovea. Fruit fellow, of the size of a cherry, marked with six milk-white lines. Berry fleshy, three-celled, the pulp in each cell easily separable from it, gelatinous-membraneous, two-celled, green. Seads six, one in each cell of the pulp. La Marec describes a plant cultivated in the Royal garden at Paris, which he supposes to be the Naboemca of the Hortus Malabaricus, and not specifically distinct from the laciniata of Linnaeus, though Linnaeus has cancelled the reference to it as a synonym in the Botanica, after having admitted it in the Species Plantarum. The plant in the French garden has deeply palmated fovea leaves, but the petioles, as well as the polli-

erion nerves, are armed with almost thorny prickles.

4. B. Africa. Linn. Herm. Parad. 107. tab. 108. Gartner, 2, tab. 88, copied by La Marec, pl. 796, fig. 3. "Leaves palmate, five-parted, fovea on both sides; divisions pinnafrid." Upper leaves five-parted, fovea on the edge; divisions pinnafrid, at the base, perforate. Berries solitary, roundish, bead, obtusely angular, yellow. Linn. Kind of the berry fleshy, rather thick, orange-coloured on the outside; pulp, membraneous-porous, easily separable from the rind, regularly divided into six, sometimes only four cells. Seeds one in each cell, ovate-globose, comprized at the sides, and
and especially towards the navel, to a sharp edge, with very minute, whitish bristles or scales lying close to their surface.

Grtt. La Marck describes a plant, cultivated at Paris, which he takes to be the same, in which the leaves are roughish beneath. 6. B. cedrica. Linn. "Leaves palmate, rough with callous points on their upper surface." Root long, not so large as B. dioica, running deep into the ground. Leaves divided like those of the common form, but less, flecked or spotted with white. Flowers axillary, pale, streaked, on long pedant pedicules. Berries small, semi-globular, divided at top into two parts, red, generally containing only two seeds. Miller, and La Marck. Native of Candia, whence the seeds were sent to C. Bonnini. Cultivated by Miller, before 1779. 7. B. bouvaria, Mill.; *fisnolata, La Marck. Dill. Edin. tab. 50. fig. 58. La Marck, Pl. 756. 1. "Leaves semi-palmate, five-parted, with obtuse segments, hairy." Root and stems like those of the common bryony. Leaves resembling those of the common fig, but smaller; narrower and smaller at the ends of the branches, hairy, and very rough, upper surface deep green, lower whitish. Native of Buenos Ayres. Cultivated in the Eltham garden, about 1726. Mill. 8. B. variegata, Miller. "Leaves palmate, with lanceolate segments, spotted on the upper, smooth on the under side; fruit ovate, scattered." 9. B. grandis. Linn. Mant. "Leaves cordate, angular, smoothish, glandular at the base underneath; tendrils simple." Stem shrubby, smooth, large, branching, scendent. Leaves roundish, five-angled, not lobed, smooth on both sides, scarcely denticulate, obtuse, alternate, petiolate. Flowers large, whitish, androgynous, lateral; pediciles one-flowered. Berry roundish, red, smooth, five-celled. Seeds few, oblong, obtuse, compressed. Native of India and Cochin-china. Introduced into England in 1783, by Mr. I. Grafton; into France, by M. Sonnerat. 10. B. cordifolia. Linn. "Leaves cordate, oblong, five-lobed, toothed, scabrous; petioles long, with two teeth at the base of the leaf." Stem angular, rough. Native of Ceylon. La Marck supposes it to be a variety of the preceding. 11. B. Madrarepotana, Berg. cap. 331. Costus Madrarepotana. Linn. "Leaves cordate-triangular, toothed, scabrous; berries globular, axillary, in pairs." La Marck. Stem flender, angular, thinly sprinkled with small callous protuberances. Leaves longer than the petiole, toothed at the edges, slightly villous beneath, green, and rather rough. Flowers small, axillary, with a villous calyx, growing two or three together on very short pedicules. Berries globular, many-seeded. A native of the East Indies. La Marck says, that it is certainly a bryony. 12. B. febrile. Linn. fol. 424. "Leaves cordate, angular, and lobed, callous-hispid; tendrils simple; berries globular; feelis mucrata." Martyn. Whole plant very scabrous. Stems five-cornered, hispid. Tendris simple. Leaves blunt, unequally toothed, a little curled at the edge; pediciles hispid. Peduncles many; axillary short. Calyx bell-shaped, five-toothed. Corolla small, very like those of melobrosis, yellow. It has altogether the nature of melobrosia, but the whole plant is hispid and rugged, and has the flammes of bryony. A native of the East Indies found by Dr. Ke nig, and introduced into England in 1781, by Sir Joseph Banks, bart. La Marck describes a plant under the same specific name, which he thinks nearly allied to the preceding, with a doubt whether it be the febrile of the younger Lin nes. It differs from Martyn's plant in having its berries perfectly smooth; a circumstance which the younger Lin nes has left undetermined. La Marck's description was made from a dried specimen. 13. B. febrile. Linn. fol. 423. "Leaves cordate, angular, toothed, callous-pointed above, villous underneath, feabrous on both sides. Tendris simple. Berries globular, smooth." Found at the cape by Thun berg and Maffon, and introduced into England in 1774. La Marck does not notice this species, unless it be his feb rile. 14. B. novis. La Marck. "Lower leaves cordate roundish, very entire; upper ones deeply three-lobed; lobes obtuse." Aided to B. Africana, but much smaller, and with leaves less deeply cut. Stem flender, a little villous, scarcely more than a foot and a half high. Leaves alternate-petiolate, green, smooth above, feabrous, with callous points beneath. Native of Africa. Described from a living plant without flowers in the Royal garden at Paris. 15. B. Abyssinica. La Marck. "Leaves large, cordate, toothed; upper ones lobed-angular; petioles and pedicules very villous." Stem five or eight feet high, villous, especially near the top. Leaves soft, almost smooth, deep green above, a little glaucous beneath; the lower ones cordate and toothed, the upper ones with four or five angular, unequal lobes. Flowers yellowish, axillary, in pairs; pedicules simple, short. Corolla five-parted, spreading, veined. A native of Africa. Described from a living plant in the Royal garden at Paris. 16. B. Americana. La Marck. "Leaves large, cordate, three-lobed; berries oval, with two or three seeds." Stem tender, white, a little bitter. Leaves long, angular, twining, jointed, with a leaf, a tendril, and a flower at each joint. Leaves petiolated, a little rough, with a few rather fimbrious teeth, and resembling those of the common fig. Flowers pedunculate, with five divisions, greenish without, white within. Berries oval, about the size of an olive, red. Seeds two or three, bedded in a spongy pulp. Plummer's MSS. A native of the Antilles. 17. B. japonica. Thunb. "Leaves cordate, undivided, and angular, toothed, unarmed-hispid." Lobes of the leaves angular, sharp, with very minute hairs on the upper surface, pale underneath, dotted with scales, an inch long. It creeps on walls. Native of Japan. 18. B. racemosa. Miller. Plum. pl. 83. 1. 97. "Leaves cordate, three-lobed, the upper ones ovate and somewhat ruged; flowers in racemes; berries nodding, oval." A native of Jamaica. 19. B. verrucosa. Ait. Hort. Kew. 3. 385. "Leaves cordate, angled; the upper surface and the veins underneath callous-feabrous; the calycticles remote; tendrils simple; berries globular." 20. B. latemor. Ait. Hort. Kew. 3. 384. "Leaves subtrinerv, hairy, drawn to a point at the base." This and the foregoing were observed by Maffon in the Canary islands, and introduced here in 1779. The latter is easily distinguished from its congeners by the leaves not being in the leafy cordinate at the base, but recurrent along the petioles. 21. B. amplexicaulis. La Marck. "Stem angular, smooth; leaves flat, cordate, subangular, embracing the stem; berries foliar, acuminate." Stems flender, scendant; leaves alternate, cordate, slightly angular, smooth on both sides, dotted above, glaucous below, on short pediciles; the upper sometimes divided into straight diverging lobes. Flowers small, axillary, foliar, peduncled. Stem sharp-pointed at the summit. Berry fleshy, acuminate, very smooth, nearly the size of a hazel nut. A native of the East Indies, communicated by M. Sonnerat, and described from a dried specimen. 22. B. biflora. Martyn. Lour. Col echina. 594. "Leaves hiatate, edged with little teeth, smooth; pediciles many-flowered." Stem herbaceous, flender, scendant, cierre. Flowers androgynous, white, axillary. Calyx none. Corolla tubular, with a five-pated, upright border. Filaments placed at the bottom of the corolla, with three alternate, warty glands. Berry ovate, acute, small, red, one-celled; containing a few ovate, arilled seeds. Native of China about Canton. 23. B. tribbula. Martyn. "Leaves three-lobed, five-neried; stipes round-
BRYONIODES (Dill. Elth.) See Siccos angulata. BRYONIODES (Pluk.) See Cissus acida.

BRYUM (from Oen. german, pullulo) first used as a generic name by Dillenius in his catalogue of plants in the neighbourhood of Giessen, printed at Frankfort on the Main in 1717, introduced by him into his edition of Ray's Synopsis 1724, and finally illustrated with full descriptions and figures of all the then known species in his admirable Historie of Mosses, published at Oxford 1741. It was given to a family of mosses distinguished by the following characters. Stems generally erect, and little if at all branched. Peduncles either terminal, or springing directly from the stem of root; and when apparently lateral proceeding from the termination of the last year's item, not surrounded at its base, but hypnous, with a peltate or solitary involucrem, but having instead of it an oblong knob or tubercle. Capsules when young covered with a smooth calyptra. It was taken up by Linnaeus in his Flora Lapponica and Genera Plantarum, both published in 1737, and continued in all his subsequent works, with no material change of the original generic character. Dillenius enumerates eighty-one species in his Historiae Plantarum, sixty-one of which appear as English plants in the third edition of Ray's Synopsis; but in the Species Plantarum the number is reduced to thirty-two, many of Dillenius's species being considered only as varieties, and those which appear to be distinct being removed by Linnaeus to Miam. The twelfth edition of the Syllae Plantarum has only thirty-one, the B. capillare of the Species Plantarum being also removed to Trinicum. The number has since been greatly increased, so that Dr. Withering in the third edition of his Botanical Arrangement reckons ninety-two British species.

Hedwig, in his new system of mosses which is generally received in Germany, and is beginning to make its way in England through the powerful influence of Dr. Smith and Mr. Dawson Turner, has contracted the genus distinguished by this name within much narrower limits, taking

...
of it his Gymnodontum, Anidrangium, Encalypta, Lecia, Grimia, Weilii, Trycholotomum, Didymodon, Cynodontium, Tortula, Barbula, Bartramia, and part of its Sphacium, Fistifera, and Dicranum; and continuing it to such species as have the following character. Periflora, or fringe surrounding the mouth of the capsule, double; outer toothed, teeth fifteen acute; inner ciliate; cilia disform, arising from a keeled membrane. Male flower, capitiform, dioecious. It has however since been again extended with various modifications by different authors. Schreber includes in it Hedwig's Mnium and Webera, with this character. Capsula, ovate-oblong. Periflora, double; outer with fifteen broad flat acute teeth; inner membranaceous, plaited and keeled, laminated, with alternate broad and capillary divisions. Male, capitate, or discoid, or gemmiferous. Dr. Smith's Bryum comprehends Webera, Pohlia, and Mnium; and Mr. Turner adds Mnium. Dr. Smith's generic character stands thus; capsula, ovate-oblong, not furrowed. Periflora, outer with fifteen teeth dilated at the base; inner membranaceous, variously toothed and laminated. Calyptra not furrowed. Pedicell terminal. He enumerates thirty-three British species.

1. B. nutans, flaky pendulous thread-moss. Schreber, Swartz, Roth, Ehrt.; (Cerium, With, Hull, Sibth.) Dill. t. 50. f. 61. Eng. Bot. 1240. "Stem generally simple; leaves lanceolate acute, keeled; capsule obvolute, pendulous, obtuse," Stems growing in thick tufts, erect, short, often simple, moss leafy at their summits. Leaves pale green, glossy, lanceolate, acute, keeled, one-nerved, tipped with a furrate point. Fruit-flasks terminal, solitary, erect, sometime two inches long, glossy, tawny purple, pale upward. Capsula, pendulous, obtuse, a little attenuated or elongate at the base, rufous-coloured, not glossy. Lid convex, with a short, blunt point. Outer fringe yellowish; inner variously laminated. Perennial. 2. B. aurum, gold thread-moss, (Mnium pyriforme, Linn.) Dillen. tab. 50. f. 60. Eng. Bot. 389. "Stem perfectly simple; leaves falcate, upper ones very long; capsule pendulous, pear-shaped, suddenly contracted about the middle." Stems in tufts, erect, simple, half an inch high, filiform. Leaves pale yellowish green, capillary, loofe, keeled, very entire; upper ones very long, spreading in form of a star. Flowers terminal. Fruit-flasks solitary, erect, an inch long, capillary, of a gold colour, glossy, somewhat waved. Capsula gold coloured, highly glossy, pendulous, pear-shaped, rather blunt, attenuated from the base to the middle; lid rather conic, short, somewhat pointed; calyptra awl-shaped, white. Fringe yellow without; white within; teeth in a double series. Annual. 3. B. elongatum, Dicks. Fase. 2. 8. (Pohlia Hcd. Mnium Pohlia Hoff.) "Stem generally simple; leaves linear-lanceolate, thickened at the edge. Capsula rather nodding, cylindrical, elongate at the base." Stem erect, short, simple, but at length a little branched. Leaves deep green, spreading, lanceolate or linear-lanceolate, acute, one-nerved, very entire, curled when dry. Fruit-flasks an inch and a half long, solitary, nearly erect, purple, yellow near the top. Capsula a little nodding but not pendulous, cylindrical, curved, brown, a little contracted at its orifice, lengthened at its base into an obconical apophysis of nearly its own length; lid conical, acute, short; fringe outer very short, brown; inner white, toothed in a singleseries. Perennial. Obs. Dillenius confounded this species with nutans. 4. B. trichodes, long, capillary, thread-moss, Linn. (Mnium uliginosum, With. Meeria uliginosa, Hcd.) Dill. Tab. 49. f. 58. "Stem generally simple; leaves linear, obtuse; capsule obvolute, incurved, somewhat nodding; fruit-flask very long." Stems in tufts, scarcely an inch high, sometimess much shorter, erect, black with a ferruginous down at the base. Leaves erect but spreading, of a full yellow green, glossy, obtuse, very entire, keeled. Fruit-flasks terminal, solitary, very long, erect, capillary, red, but brown at the base, and yellowish at the top. Capsula inclining, obvolute on a short apophysis. Lid conical, obtuse, very short; fringe outer short, inner reticulated twice as long as the outer. Calyptra awl-shaped, flat, fringed. Perennial. 5. B. delabrum, pale-leaved thread-moss (Media Swartz, Hcd.) Dicks. Tab. f. 5. 3. "Stem very short, simple; leaves lanceolate, reticulated, a little ferrated at the top; capsule obvolute, nodding." Stems in tufts. Leaves pellucid, acute, one-nerved. Fruit-flasks solitary, terminal, erect, an inch and a half long, red. Capsula curved, opake, with a very contracted apophysis. Lid convex, with a short point, red; fringe outer short, ferruginous; inner reticulated, twice as long as the outer. 6. B. cylindricum, Dicks. Tab. 11. f. 4. "Stem simple; leaves lanceolate-linear, ferrated towards the top; capsule rather erect cylindrical." Stem scarcely half an inch high, erect. Leaves of a pleasant green colour, erect but spreading, acute, keeled, one-nerved. Fruit-flasks erect, terminal, an inch long, red. Capsula pale brown, small, flender, with an obtuse apophysis of its own magnitude, fringe pale. 7. B. carnellum, Linn. (Boletia carnellum Hoff.) Dill. Tab. 50. f. 69. "Stem generally simple; leaves lanceolate, acute, very entire, reticulated, placed rather remote from each other; capsule pendulous, top-shaped." Stems not half an inch high, in tufts, erect, red. Leaves alternate, pale green, pellucid, reticulated, very entire, one-nerved. Fruit-flasks terminal, solitary, half an inch long, a little zigzag, of a pale rote colour. Capsula pendulous, flesh-coloured, opake; lid conic, short, obtuse; fringe outer, rufy brown; inner, yellowish, toothed in a double series. 8. B. alpinum, Linn. Mant. Dill. Tab. 50. f. 64. "Stem branched, erect; leaves ovate-lanceolate, acute, imbricated; capsule oblong, pendulous." Stems in tufts, one or two inches high; branches erect, fluff, round, acute. Leaves imbricated densly on all sides, beautifully variegated with green and purple, glossy, very entire, pellucid, often with a very red nerve, when dry prehced close to the flem. Fruit-flasks lateral, solitary, an inch long, red, straight, rising higher than the stem. Capsulae obvolute-cylindrical, red when ripe; lid hemispherical, umbonate; fringe white or rote coloured. 9. B. capitatum, Linn. (Mnium capitatum With. Roth. Abb.) Dill. Tab. 50. f. 66. except the variety F. G. lefser flattened thread-moss. "Stem branched at the base, matted, leaves ovate-lanceolate, flat, ending in a hair; capsule obvolute, pendulous." Stems forming a dense tuft, branched from the base; branches triform, simple, spreading, leafy, obtuse. Leaves of a pleasant green, very entire, one-nerved, the upper one larger, spreading in form of a star. Fruit-flasks from the base of the branches, about an inch and a half long, capillary, erect, purple at the base, green at the top. Lid convex, umbonate, fringe yellow, teeth acuminate. 10. B. biebror, Dicks. Fase. 4. 16. Dill. Tab. 50. f. 65. F. G. "Stem very short, branched at the base; leaves oval-lanceolate, acuminate; capsule ovate, obtuse, pendulous." Stems scattered, with long fuscous roots. Leaves yellowish green, small, spreading, flat, very entire, a little pointed but not ending in a hair. Fruit-flasks from the base of the branches, half an inch long, erect, very red, glossy. Capsula rather large, thick, red at the base, fulvus at the top, often entirely blood red; lid hemispherical, umbonate, glossy, fulvous or scarlet; fringe nearly reflexing that of B. carnellum. 11. B. argentum, Linn. (Mnium argent. Hoff.) silvery thread-moss. "Stem branched at the base,
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base, matted; leaves ovate, concave, ending in a hair, imbricate; capulfle oblong, pendulous. Stems in convex tufts, half an inch high, branched from the base; branches thread-shaped, erect. Leaves with a silvery gloss, closely imbricated, very entire, one-nerved, ending in a short hair. Fruit-falks from the base of the branches, scarcely an inch long, capillary, glossy, purple at the base, yellow at the top. Calyptra short, reddish. Lid convex, very short, fulvous, fringe, yellow. 12. B. Zies., Dicks. F. 2. Tab. 10. Eng. Bot. 1821. "Stem erect, branches: leaves ovate, concave, imbricated, point-t; capulfle club-shaped, drooping." Perennial. Stems in tufts; branches round, obtuse. Leaves soon white or flesh-coloured, glossy, very entire, one-nerved. Fruit-falks from the base of the branches, an inch or more long, a little filament, red. Calyptra brown, lid convex, umbonate, glossy, pale brown. 14. B. capillaris, Linn. Sp. Pl. (Mnium Linn. Fl. Suec. With. &c.) "Stem branched at the base; leaves ovate-lanceolate, pellucid, keeled, somewhat serrated; capulfle obovate, pendulous." Perennial. Resembling B. cephalitum but larger. Branches about an inch long, erect, thickened at the base, flatulate. Leaves of a fine green, obtuse, very entire, one-nerved. Fruit-falks an inch and a half long, firm, red. Calyptra obtuse, between cylindrical and club-shaped, large; lid ferruginous, glossy, hemispherical, with a short, straight point, outer fringe fulvous with acuminate teeth. 15. B. annuum, summer thread-mosses (Mnium annuum Linn.) Dill. Tab. 50. f. 68. "Stem branched at the base; leaves ovate-lanceolate, pellucid, keeled, somewhat serrated; capulfle obovate, pendulous." Perennial. Stems red, erect, leathery; male simple, often elongate, gemmiparous; feminine branched. Leaves fine green, under a lens reticulate, keeled, one-nerved, acute. Fruit-falks terminal, solitary, an inch and half long, red. Calyptra nearly pear-shaped; lid conic, short, acute, flesh-coloured; fringe pale. 16. B. convolutum, Dicks. F. 4. Tab. 11. Fig. 11. "Stem divided at the base; leaves lanceolate, keeled, serrated near the tip; capulfle ovate, pendulous." Perennial. Stems in dense tufts, half an inch high, sometimes simple, naked below, red. Leaves yellowish green, glossy, acute, somewhat revolute, serrated from the middle; the lower ones shorter and nearly heart-shaped. Fruit-falks terminal, not an inch long, a little flattened, ferruginous. Calyptra short, dilated at the margin, almost to the tip; lid convex, umbonate. 17. B. attenuatum, tender, proliferous thread-moss. Dicks. F. 4. Tab. 10. f. 8. "Stem simple, proliferous; leaves flat, ovate, very entire, reticulate; capulfle club-shaped, cylindrical, erect." Perennial. Stems ascending half an inch long, filiform, often throwing out new stems which take root. Leaves crowded, acute, one nerved, pellucid. Fruit-falks terminal, erect, half an inch long, yellowish. Calyptra erect, flat, pale brown, contracted at the orifice; lid convex, without a point. 18. B. Lortum, swan neck thread-moss (Mnium hornum Linn.) Dill. Tab. 51. f. 71. Curtis Tab. 71. "Stem simple; leaves lanceolate, denticulate-ferrated; fruit-falk curved; capulfle ovate, drooping." Perennial. Larger than the preceding species. Stems in tufts, simple, leathery, red, ferruginous and tomentose at the base. Leaves fine green, pellucid, membranous, spreading acute, with a strong red nerve, waved when dry. Mostelline flower large, terminal, lorate, surrounded with large oblong leaves; feminine on a different plant. Fruit-falks terminal, solitary, very long, flattened, and red at the base, curved, and yellowish at the top, thickened under the calyptra. Calyptra large, drooping, ferruginous, red at the orifice; lid hemispherical, with a short point; outer fringe of a citron colour, with acute teeth, inner white. 19. B. erudum, (Mnium erudum Linn.) Dill. Tab. 51. f. 70. "Stem simple; leaves lanceolate, acute, very entire; upper ones narrow, denticulate; capulfle oblong, drooping." Perennial. Transparent-green thread-mosses. Stems in tufts, simple, erect, scarcely an inch high, naked at the base, dark purple. Leaves crowded at the top of the stem, glossy, of a fine green, pellucid, spreading, flat, one-nerved; lower ones shorter, upper narrower, and generally ferrated near the tip. Fruit-falks terminal, erect, an inch long, red. Calyptra ferruginous, scarcely red at the orifice; lid hemispherical, with a slight tip, yellowish; fringe citron-colour; calyptra recurved, deciduous. 20. B. marginatum. Dicks. F. 2. Tab. V. fig. 1. "Stem simple; leaves lanceolate, acute, denticulate, thickened at the margin; capulfle ovate; lid conic." Thick-edged thread-mosses. Perennial. Stems an inch high, erect, red. Leaves with a red nerve and margin. Fruit-falks terminal, erect, an inch long, flesh-coloured. Calyptra pendulous, red; lid, conic awl-shaped; calyptra awl-shaped, reddish, recurved. 21. B. interruptum. Dicks. F. 4. Tab. ii. f. 6. "Stem branched, intermediately leathery; leaves lanceolate, acute, completely ferrated; capulfle pear-shaped, rather erect." Interrupted thread-mosses. Perennial. Stems in tufts, an inch high, leafy, pendulous, in a determinate direction, red. Leaves falcate, yellowish green, glossy, reticulate, one-nerved; lower ones remote, small, red; fruit-falks terminal, erect, red, narrowly an inch long; capulfle brown, dilated at the mouth; lid hemispherical, obtusely umbonate. 22. B. nigricans. Dicks. F. 4. Tab. ii. f. 10. "Stem branched at the base; leaves lanceolate, entire, ferrated towards the tip; capulfle top-shaped, pendulous." Dark-green thread-mosses. Perennial. "Stems in tufts. Leaves dark-green, imbricated, acute, keeled, dilated at the base; fruit-falks terminal, ferruginous, curved at the top. Calyptra with a spreading orifice; lid convex, obtusely umbonate; fringe yellow. 23. Bryum tenuissimum. Dickson F. 4. Tab. ii. f. 6. "Stems branched; leaves brittle-shaped, very entire, curled when dry; capulfle ovate, inclining an apophysis small." Inclining curved thread-mosses. Perennial. Stem erect. Leaves loosely imbricated, keeled, dilated at the base. Fruit-falks terminal, erect, half an inch long. 24. B. cotyledon. Dicks. F. 2. Tab. v. f. 2. "Stem ascending, a little branched; leaves lanceolate, very entire, decurrent; fruit-falk keel-, jointed; capulfle club-shaped, pendulous." Elbow shaped thread-mosses. Perennial. Stems two or three inches high, leafy, clothed with a rusty down. Leaves spreading, fine green, pellucid, acute, thickened at the edge with a strong red nerve. Fruit-falk terminal, solitary, thicker than four inches long, yellowish brown, glossy. Capulfle attenuated at the base. Off. The largest bryum hitherto discovered. 25. B. ventricosum, (Bryum triquetrum. Huds. Hoff. Mnium Pseudo-triquetrum Hed. Hoff. With.) Dicks. F. i. P. 4. Dill. Tab. ii. f. 73. "Stem branched in a determinate direction; branches ascending; leaves alternate, lanceolate, ferrated at the tip; capulfle ventricose, pendulous."

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Swelling bog-thread-mosses. Perennial. Stems in tufts, with long roots, clothed with a rusty down; branches numerous, ascending, red, loosely leaved. Leaves pale green, alternate, erect, spreading, acute, one-nerved, twisted when dry, Flruit-flasks terminal, or from the tip of the branch of the preceding year, an inch and a half or two inches long, erect, purple at the base, yellowish at the top. Capsule ovate, short, a little contracted under the orifice; lid convex, with a short point; fringe yellow. 26. B. bimatum. Schreb. Roth. Swartz (B. triumatum & Hed. Mniium Bimatum Hoff.) Dill. Tab. lii. f. 73. "Stems branched; leaves ovate, awned, very entire, capsule pear-shaped, pendulous." Pear-shaped bog-thread-mosses. Perennial. Leaves two or three inches high, irregularly branched, of a dark rusty colour. Leaves elongate, yellowish green. Fruit-flasks from the end of the two or three year-old branches, two or three inches long, dark purple, glossy, sometimes knee-jointed towards the base. Capsule narrowed at the base, contracted under the orifice, twice as large as in the preceding; fringe yellow. 27. B. turbinatum. Swartz. Roth. (B. triumatum & Hed. Mniium turbinatum Hed. Hoff.) Dill. Tab. lii. f. 74. "Stems branched, leaves ovate, awned, very entire, capsule pear-shaped, pendulous." Pear-shaped bog-thread-mosses. Perennial. Leaves scarcely an inch high, in tufts; leaves fine green, spreading, alternate, approximate, one-nerved. Fruit-flasks an inch long, purplish brown, a little flaxeno. Capsule attenuated at the base; lid convexus, without a point; fringe rufif coloured. 28. B. filiforme. Roth. (B. ferpyllum & Hed. Mniium proliferum, Var. 2. With. Mniium filiforme, Hed. Hoff.) Dill. Tab. lii. f. 78. "Stems simple; barren ones, proclinate, a little branched; leaves ovate, serrated; capsule oblong, drooping." Starry-leaved thread-mosses. Perennial. Leaves determinately branched, one or two inches high. Leaves fine green, with a strong red nerve, scarcely reaching the tip. Fruit-flask terminal, about two inches long, a little curved, thickened at the tip; lid hemispherical. 29. B. cupulatum. Swartz. Roth. Hull. Sib. (Mniium ferpyllum & Linn. M. cupulatum Hedw. Hoff. With. B. ferpyllum & Hed. Hoff.) Dill. Tab. liii. f. 79. "Stems simple; barren one, proclinate, a little branched; leaves ovate, serrated; capsule ovate; lid hemispherical." Pointed-leaved thyme-thread-mosses. Perennial. Leaves of two kinds; the barren ones procumbent, throwing out roots, three inches or more long; fertile ones erect, simple, an inch long. Leaves fine green, pellucid, under a lens minutely reticulated, alternate, broad-ovate, somewhat waved, acutely serrated, pointed, with a strong pale nerve. Fruit-flask terminal, an inch long, flexuoso, roto-coloured. Capsule pendulous, short, ventricose, retuse, yellow, with a scarlet orifice; lid with a small point; fringe iron-coloured. 32. B. punctatum. Roth. Hull. Sibth. (Mniium ferpyllum, Linn. M. punctatum, Hedw. With. B. ferpyllum & Hed. Hoff. Swartz.) Dill. Tab. liii. f. 81. Eng. Bot. 1183. "Stems nearly simple; leaves ovate, very entire, dented, reticulated; capsule elliptical; lid awl-shaped." Dotted-leaved thyme-thread-mosses. Perennial. Habit of the preceding, but distinguished at once by its dotted leaves. Stems an inch and half high, leafy, red, often flexuoso. Leaves broadly ovate, very obtuse, a little pointed, thickened at the edge, red, repand, with a strong red nerve; the upper ones flaccito. Fruit-flask terminal, more than an inch long, purplish, bowed at the top; capsule pendulous, green, with a purple orifice, finally brown; lid yellow, convex at the base, with a rather obtuse recurved point. 31. B. refractum.


The sfylem of Hedwig does not seem likely at present to be recognised in France. La Marche, in the Dictionnaire Me-thodique, does little more than enumerate and describe the species of Linnæus, as theystand in the last edition of the Syllena Naturelle. Bœf, in the Nouveau Dictionnaire d'Histoire Naturelle, published so lately as 1805, says, that the byrum of Linnæus is a very natural genus; but that the German botanists, who never think that they have genera enough, have exercised their skill upon it, and have formed out of it seventeen genera, most of them founded on characters which are scarcely discernible with the best lens. It must be acknowledged that there is some reason for the complaint; and we feel a pride in reflecting that our two great English cryptogamists have fleeced a middle course, and have produced a real improvement in the science; avoiding at the same time the difficulties which are jutly objected to by the French naturalists.

As Hedwig's new genus bairamia, which was formed entirely at the expense of Linnæus's byrum, has been omitted in its proper place, owing to the German sfylem of mosses not having publicly received the powerful patronage of Dr. Smith and Mr. Turner, when that part of our dictionary was written, it cannot now be more properly introduced than as an appendix to the present article. The other genera will be found under their respective letters of the alphabet.


(Bryan
BRZESNO, a town of Bohemia, in the circle of Boleșlaw, 5 miles E. of Jung Buntzlaw.

BRZESANY, BREST, or BRISETSK, a well built town, with a castle, of Poland, in the patriciate of Red Ruffia, 24 miles N.N.E. of Halicz. N. lat. 54° 12', E. long. 25° 20'.

BRZEZIN, a town of Poland, in the patriciate of Dielk; 44 miles N.W. of Bielt.

BRZEZYNY, a small town of Poland, in the patriciate of Lencziez; 46 miles S.E. of Lencziez.

BRZISTEW, a town of Bohemia, in the circle of Boleșlaw; 11 miles S.E. of Jung Buntzlaw.

BRZOSTECK, a town of Poland, in the patriciate of Sandomirz; 56 miles S.S.W. of Sandomirz.

ESURA, a river of Poland, which runs into the Vistula, 12 miles E. of Plocko.

EU, a town of France, in the department of the Eure and Loire, and district of Dreux, 2 leagues N.E. of it.

BUA, or the Life of Partrigges, a small island in the northern part of the Adriatic, near the coast of Dalmatia, joined to the town of Trau by a bridge, 20 miles W.N.W. of Spalatro.

BUADH-VAILL, q. d. mouth-piece of victory, called also, in the old Irish tales and romances, Besenwezen and Bearnvaill, is supposed by Mr. Ousley to have been a species of trumpet. It is made of a light fine-grained wood, probably willow, and is 6 feet 4 inches long; the wider end measures 3 inches diameter, from whence it gradually tapers to a point at the other end, where a mouth-piece is supposed to have been fixed. This instrument, which is particularly described and illustrated by figures in the fourth volume of the Irish Transactions, was found in 1791, in the county of Mayo, lying horizontally in the body of a turf bog, at the depth of about 9 feet from the surface. The precise age of this instrument, the wood of which was perfectly found, is not ascertained. Mr. Ousley supposes it to have been at least previous to the settlement of the English in Ireland, as it is not mentioned by Cambrensis, or any subsequent author. Lord Dillon, on whose estate it was found, concludes, from the great accumulation of bog over it, that it must have been in the situation in which it was discovered for many ages, and this is further confirmed by the rudeness of its contrivance and workmanship, which indicates its remote antiquity.

BUAILT. See Builit.

BUAMACHUCO, a town of South America, in the country of Peru, and jurisdiction of Caxamiquilla, chiefly inhabited by Indians.

BUANES,
BUANES, a town of France, in the department of Landes; 5 miles W. of Aire.

BUARCOS, or BUARGAS, a town of Portugal on the sea coast, in the province of Beira; 7 leagues S.W. of Coimbra.

BUARID, a small island in the Red sea, near the coast of Arabia, 4 miles W. of Lohia.

BUBALE, in Zoology. See BUBALUS.

BUBALINUS SERENINS, a name alligned by some authors to the Ancestrum of the Cynodon, a very terrible sort of ferpent, according to report, common in that part of the world. It is said mischievous among cattle; a circumstance implied by the name it bears in India. The particular kind of ferpent bearing this name is not exactly known to us.

BUBALUS, the Buffalo. Gmelin describes this animal, Bux Bubalus, after Linnæus, as having the horns repugnate, or lying backwards, turned inwards, and flat on the front, or anterior part.

The Buffalo appears to be so closely allied to our common ox, that without an attentive examination it might be easily mistaken for a variety of that animal. In point of size it is rather superior to the ox, and upon an accurate inspection it is observed to differ in the shape and magnitude of the head, the latter being larger than in the ox; the forehead is more elevated, the muzzle of a longer form, much larger, square, and less depressed. But it is chiefly by the structure of the horns that the Buffalo is distinguished, those being of a shape and curvature altogether different from those of the ox; they are of a gigantic size in proportion to the bulk of the animal, and of a comprehesive or depressed form, with a sharp exterior edge; for a considerable length from their base these horns are straight, and then bend slightly upwards; the prevailing colour of them is dunry, or nearly black. The Buffalo has no dewlap; his tail is small, and delitute of vertebrae near the extremity, and his ears long and pointed. The teats of the buffalo, which are four in number, Definney conceives to be sufficiently indicative of this species, without advertising to any other character; for these, he remarks, are not disposed, as in other animals, in two longitudinal parallel lines, but on the contrary range in a single row in a transverse direction.

This animal has an appearance of uncommon strength. The bulk of his body, and prodigious muscular limbs, denote his force at the first view. His aspect is ferocious and malignant, at the same time that his physiognomy is strongly marked with features of stupidity; his head is of a ponderous size, his forehead convex, his eyes diminutive, and his muzzle flat, and what serves to render his visage still more fave are the tufts of frizzled hair which hang down from his cheeks and the lower part of his muzzle.

Most commonly the buffalo is entirely of a blackish colour with the exception of the hair at the top of the forehead, and the tuft at the extremity of the tail, which are of a yellownish white colour. The skin itself is also of a black colour, and from this general call it is but very seldom observed to vary; though we meet with descriptions in the works of travellers of white, grey, and reddish, or bay buffaloes. In Europe they are, however, sometimes whitish on the inside of the limbs, and Soumin records an example of one which he saw in Egypt, which had all its legs, belly, and sides, perfectly white. It varies, however, greatly as to the length and thicknecfs of its hair, and is sometimes seen nearly naked.

This animal is originally a native of the hotter parts of India and Africa, from whence it is said to have been introduced into Italy in the seventh century; and is now completely naturalized to the climate of the South of Europe. Mr. Pennant supposes the Buse syphus of Aristotle to have meant buffaloes. Gmelin is of the same opinion, referring for his Bubalus to Bux Bubalus in Africa, Bubalus, Aul. Hist. Afr. &c.; and he considers also the Bos Indicus of Pliny as the same animal. This conjecture has the advantage of much respectable authority, but there are naturalists of no mean celebrity who are disposed to discountenance it. Buffon endeavours to prove that the animal we are acquainted with at this day under the name of buffalo, was altogether unknown to the ancient Greeks or Romans; and further, that the buffalo was not transported from its native countries, the hottest parts of Africa and the Indies, to be naturalized in Italy, before the seventh century. In support of the former of these assertions, he alleges the silence of all authors prior to that age. For the second, he observes that the wild buffaloes of the hotter parts of Asia and Africa are precisely of the same kind as our buffalo. He compares the description of this animal with the remarks of travellers and navigators who have spoken of the buffaloes of Perlia and the Mogul empire, Bengal, Egypt, Guinea, and the Cape of Good Hope; and from this comparison infers that in all those countries the buffalo is of the same individual species as our European buffalo, subject only to some inconsiderable variation.

The buffalo grows in some countries to an extremely large size. Mr. Pennant quotes a pair of horns in the British Museum in proof of this, which are six feet and a half long, and the hollow of which will hold five quarts. Jerome Lobo, in his account of Abyssinia, affirms that some of the horns of the buffaloes of that country will hold ten quarts, and Dillon saw in India which were ten feet long; they are sometimes wrinkled, but generally smooth. The difference between the points of the two horns of the buffalo is commonly about five feet. Wild buffaloes occur in many parts of Africa and India. In Malabar, and the islands of Borneo and Ceylon, they are abundant, and are considered as exceedingly fierce and dangerous animals. The buffaloes of Abyssinia grow to twice the size of our largest oxen, and are called elephant-bulls, not only on account of their valour, but from their naked black skin resembling that of an elephant.

In a state of wildness the buffaloes live in the forests, and go about in great troops. The hunting of these animals is a favourite, but very dangerous pursuit, among the Indians, and requires the greatest share of dexterity. The hunters never venture in any numbers to oppose these ferocious animals face to face, but conceal themselves in the thicketts, or among the branches of the trees, from whence they flitke their javelins upon the buffaloes as they pass below them. These people are very fond of the flesh, which is affirmed by some to be hard and indifferently flavoured. They drive a considerable trade in the skins and horns of the buffalo, which for many purposes is far more useful than those of the ox. In the Mogul dominions it is no uncommon circumstance to entice the wild buffalo, the lion, or the tiger, in nets, when the people amuse themselves before they put them to death by forcing them to combat each other, and it is said that influences have occurred in which the buffalo has proved victorious over these powerful antagonists, by attacking one when he had overcome the other. Thunberg, in his travels through Japan, speaks of having seen, in the environs of Misco, buffaloes with a lunch upon the back; but from this peculiarity it has been thought most likely that it was the Zebu which that traveller observed, and not a variety of the buffalo.

The domestic buffalo is much cultivated in Egypt, where according to
according to Somnini it yields plenty of excellent milk, from
which butter is made as well as several kinds of cheese.

The buffalo (says that writer) is an acquisition of the
modern Egyptians, with which their ancestors were unac-
quainted. It was brought over from Persia into their
country, where the species is at present universally spread,
and is very much propagated. It is even more numerous
than that of the common ox, and is there equally domestic.

Though but recently domesticated, as is easily discernible
by the uniformly constant colour of the hair, and still more
by a remnant of ferocity and intractability of disposition,
and a wild and lowering aspect, the characters of all halt-
tamed animals. The buffaloes of Egypt, however, are not
near so wild nor so much to be feared as those of other
countries. They take partake of the very remarkable gen-

efies of other domestic animals, and only retain a few
sudden and occasional caprices. The sight of any thing
red, which is said to make them fly into fits of ungovern-
able fury elsewhere, makes no impression on those of Egypt.

The inhabitants of the country, besides their red turban,
wear also in general a rather short of the same colour, which
envelops the neck and chape, and I never observed that the
sight of either of these affected the buffaloes. They are so
fond of the water, that I have seen them continue in it
the whole day. It often happens that the water which is
fetched from the Nile near its banks has contracted their
musky smell.”

These animals multiply more readily than the common
ox: they are also more robust, better capable of bearing
fatigue, and, generally speaking, less liable to distempers.
They are therefore employed to advantage in different kinds
of labour. Buffaloes are made to draw heavy loads, and
are commonly directed or restrained by means of a ring passed
through the nose. Two buffaloes yoked, or rather chained,
to a cart, are able to draw as much as four strong horses.

As they carry their necks and heads low, the whole weight
of their body is employed in drawing; and their maws much
surpasses that of a labouring horse. In its habits the buf-
falo is much less cleanly than the ox, delighting to wallow
in the mud; and, next to the hog, may be considered as
the dirtiest of domesticated quadrupeds. His voice is
deeper, more uncouth and hideous than that of the bull.
The milk of the female buffalo is said by some authors to be
not so good as that of the cow, but it is more plentiful, and
is used for the purposes of the dairy in the warmer regions.
In the sixth supplemental volume of Buffon, it is affirmed
that the milk is far superior to cow’s milk, not only in taste
but colour, and that it makes the most excellent butter, cheese,
&c. The horns and horns are of more value than all the rest
of the animal; the former being of extreme strength and dur-
ability, and consequently well adapted for various purposes
in which strong leather is required; the latter are of a fine
grain, strong, and bear a good polish, and are therefore in
much esteem with cutlers and other artificers. Italy is the
country where buffaloes are most common in a domesticated
state, being used there, as in India, both for the dairy and
the draught. The parts in which they are most successfully
 cultivated are the district of the Pontine marshes, and those
of Sienna. The Spaniards are attentive to this race of
cattle, and indeed the cultivation of this useful animal seems
to be pretty general in all countries on the borders of the
Mediterranean sea both in Europe and Africa.

For so robust a creature, the buffalo is of a delicate con-
stitution, and suffers equally by an excess of cold or heat.
In the summer it retires to shady places, or into the water
in which it takes the greatest delight; and in winter retreats
to the warmer coverts, or the recesses and shelter of the
forests. This ingrained quality of the animal seems to
imply that the buffaloes originated rather in temperate cli-
mates than in those that are either very hot or cold.

Besides the males that are common to the ox and other
cattle, the buffalo is subject to one of a particular sort, with
which it is attacked only in the early part of its life. This is
called by the French tubirn, an expression that implies it
to be most common in the male. The symptoms of this
disease are easily detected by a considerable swelling
that takes place in the throat and under-parts of the muzzle, and
sometimes by the whole body becoming inflamed. The
poor animal thus afflicted refuses all kinds of nourishment;
his eyes trickle; his tongue appears covered with a thick
white scum; and when he attempts to walk, he moves with
difficulty at a slow pace, with a lame or limping motion.
They breed in the fourth year, producing young for two
years together, and remaining fertile the third. The buffalo
has seldom more than one young at a birth, or two at the
utmost; and they commonly cease breeding after their
twelfth year. Their term of life is pretty much the same
as that of the common ox.

The small naked Indian buffalo of Pennant, and its ana-
logous variety, the dwarf buffalo, appear to us to belong ra-
erher to the species Bos Caffer, than to the above; and
will be therefore considered separately under that article. See
Caffer.

Bubastis, or Bubastus, in Ancient Geography, a
famous town of Lower Egypt, sited on the most easterly
branch of the Nile, which, from the name of this city, was
called by the ancients the “Bubastic” river, or canal.
The prophet Ezekiel calls this place “Phi-Buseth.” M. d’An-
naprufos, that the Bubastic canal of Itolom was not that
which proceed from Babastis to the sea, this being the
Pelusiac canal; but that which passed from this city to-
wards the south, and, joining with the Tranjan canal, dis-
charged itself into a lake called “Lacus Anar.” In this
place was a magnificent temple dedicated to Diana, who,
in the Egyptian language, was denominated “Bubastis,”
and hence has been derived the name of the city.

Bubastis, in Mythology, a name or attribute ascribed from
the Egyptians to Isis, or the moon, which, being perfomi-
ated, was regarded as a distinct deity, and gave name to
the city above-mentioned, whither the people resorted from all
parts of Egypt, at a certain period of the year. The symbol
of this deity was a cat, which was fed by the priests with fa-
cred food, and, when it died, embalmed and carried in pomp
to the tomb prepared for it. To this fabulous circumstance,
the veneration manifested by the Egyptians for the cat has
been ascribed. In the language of the priests, Babastis was
represented as the daughter of Isis; and hence the Greeks,
who honoured the moon by the name of Diana, bestowed
also on this Egyptian divinity. Accordingly Herodotus
(lib. ii.) says, that Babastis was called Diana by the Greeks;
and to her the Egyptians attributed the office of afflicting
pregnant women. The Greeks and Latins ascribed the fame
to Diana. See Horace, lib. iii. od. 22. According
to the Greeks, Diana was the daughter of Jupiter and La-
tona; and Babastis sprung, according to the Egyptian my-
thology, from Oitris and Isis. Babastis was called by the
Greeks Alithyia, or Inuina, from her preying over
child-birth; and the Egyptians adored her under this name
in the city of Lithyia, situated near Latopolis. Plutarch,
in his treatise of Isis and Oitris, says, that at the festivals
celebrated in honour of Bubastis, they burnt men alive, call-
ing them Typhoons, and throwing their ashes to the winds.

Amasis, says Porphyry, in his discourse of abstinence, who
visits the same fact, abolished these sanguinary facricies, and
established figures of wax of the natural size for the human vic}-

ents, &c., on the other hand, contends (ib. ii.), that the Egyptians were never guilty of this crime. "How can a people," says he, "who can scarcely prevail upon themselves to sacrifice a few animals, shed human blood upon the altars of their gods?" In order to reconcile these contradictory testimonies, Savary conjectures, that the pastoral Arabs, who subjugated Egypt, long before the arrival of the Hircetides, brought with them that barbarous custom, which had been established among them from remote antiquity; and as an evidence of the probability of this opinion, it is suggested, that the Egyptians abstained from shedding human blood, as soon as the Pharaoh Amasis had taken Heliopolis from these ferocious conquerors, and had driven them to the frontiers of Arabia.

It has been questioned, how Bubalis could be called the daughter of Isis, as she was also the symbol of the moon. The Egyptian theology, says Savary, explains this apparent contradiction. Isis was the general appellation of the moon, Bubalis a particular attribute. The fun, in conjunction with the star of the night, formed the celestial marriage of Osiris and Is; the creccent, which appears three days after, was allegorically dyed their daughter. In this light, the Hebrews called the same phenomenon "the birth of the moon"; and to the same purpose Horace says, (od. 27. lib. iii.):

"Celo fepinas si tulris manus,
Nacorit lunâ, rudica Phidyle," &c.

Hence we may deduce the reason why, in the city of Hithia, where Bubalis was adored, the third day of the lunar month was consecrated by a particular worship. On this day the moon assumes the form of a creccent; and therefore the Egyptians celebrated a solemnity in honour of Bubalis, which in their tongue signified "New Moon." The creccent with which her head was crowned, obviously expresses the intention of the priests in creating this symbo-

BUBASTUS (Cramer), in Entomology, a variety of Sphinx daidyma, Fabr. See Daidyma.

BUBBLES, Bollé, in Phystis, little round drops or vesicles of any fluid filled with air, and formed, either on its surface, upon the addition of more of the fluid, as in raining; or in its subsidence, upon a vigorous intense com-
nition of its parts.

Bubbles are dilatable or compreensible, i.e. they take up more or less room, as the included air is more or less heated, or more or less pressed, from without; and are round, because the included aura acts equally from within all round. Their coat, or cover, is formed of the minute particles of the fluid, retained either by the velocity of the air, or by the brike attraction between those minute parts and the air. See Colour.

These little bubbles, rising up from fluids, or hanging on their surface, form the white scum at top; and these same bubbles form the fleas, or vapour, flying up from liquors in boiling, &c. the manner of which see under BOILING, VAPOUR, &c.

Buble, in Commerce, is a cant name given to a sort of projects, for the raising of money on imaginary grounds; very frequent in the years 1718, 1719, 1720.

The pretended design of these undertakings was, to raise a flock, for the retrieving, letting on foot, or carrying on some promising and useful branch of trade, manufacture, machinery, or the like. In order to which, proposals were given out, shewing the advantages of the design, and inviting persons into it. The sum necessary to carry on the affair, together with the profits expected from it, were di-

vided into a certain number of shares, or subscriptions, to be purchased by persons disposed to adventure therein. Th real design, in some, was to raise a sum for the private advantage of the subscribers, to be laid out by them in the South-sea stock, &c. in hope, by the rise thereof, to be able to refund the subscribers' money, with profit to themselves. In others, the design was absolutely to defraud the adventures of their subscription money, without any view to re-

stitution. There was a third kind somewhat different: the projectors of these, to proceed the more securely, proposed to have books opened, and subscriptions taken at some time to come; and in the mean time took money by way of premium, to entitle persons to be admitted subscribers, as soon as the affair should be ripe for dividing into shares. Several thousand shares were thus very frequently bestowed in one day; and premiums, from one shilling to some pounds, paid thereupon to the profits of the projectors.

The number of bubbles, and their qualities, are very ex-

BUBBLING WATERS. See WATER.

BUBBOLIA, in Ornithology, a synonynous name of the homos, unua caps, which see.

BUBEREZNOUSKOE, in Geography, a town of Rus-

fian Tartary, on the river Zuks, 32 miles north of Arkad-

BUBIL, in Ornithology, a species of Turdus, of a brown colour, with a black longitudinal band behind the eye. Gmel. This inhabits China, and is the only long-bird that is naturallly an inhabitant of the Chinese dominions. It is the same species as the bosil already described. See Bou-

BUBLITZ, in Geography, a town of Hinder Pomerania, in the principality of Câmain, a miles S. E. from Collin. This small town, belonging to a bailiwick of the same name, lies on the Gozel, not far from the borders of Poland. In 1605, and again in 1682, it was wholly consumed by fire.

BUBO, in Anatomy, is sometimes used to denote that part otherwise called inguic, or groin.

Bubo, in Ornithology, a species of Strix, or owl of the eared tribe, known in this country by the name of the great eared, or horned owl. This bird is the largest species of its tribe, being in point of size almost equal to the eagle. Wil-

Slyghby for this reason calls it the eagle-owl. The body of this creature is of a tawny colour, very beautifully variegated with lines, streaks, and speckles of black, brown, cincereus, and ferrugineous. The wings are long, the tail short, and marked with dusky bars; legs thick, covered down to the extremity of the toes with a thick and close down of a telfa-

BUBO
eccos colour. The claws are large, much incurvated, and of a dusky colour.

This bird is of a solitary disposition, resorting almost constantly in the depths of extensive woods, in ruined edifices standing in lonely situations, or among rocks that are difficult of access. It therefore abounds most in woods and mountainous countries. There are few instances of it having been observed in Britain. Once or twice it has been seen in Scotland, and another time in Yorkshire. In France it occurs more frequently, but is still left to there than in Germany, Sweden, and Lapland. Besides the European variety, which is found generally disturbed over the continent, there are three other very distinct varieties of the Bubo. The first is the Athritic, Bubo Athriticus, Linnaeus, which is often an unguous, and in admitting to be nothing more than a variety of Bubo. This is the grand doc 'd histoire of Buffon, and great bird of from Atlas figured by Edwards. Albin names it the black-winged bird, in allusion to the blackish colour of the wings; the whole plumage being of a darker colour than in Bubo, but the wings especially. This bird is further distinguished by the legs which are shorter and weaker, but the claws are large and sharp; the face is of a whith grey colour. Another variety, le grand doc de France, differs only from the Athritic variety in having the legs bare of feathers, and both the legs and foot weaker. The existence of the last mentioned variety exists principally upon Marcgrave, who describes it under the Brusilian name of japhetis. He informs us it is the size of a goose, with a head like that of a cat; the eyes shining like crystal, with a yellow circle. Near the aperture of the ears it has several pointed feathers, two fingers long, which being movable can be erected at pleasure. The tail is broad, the wings not reaching to the end of it. Legs covered to the feet. Colour of the bird variegated with yellow, blackish, and white. This is the variety. Bubo magelanicus of Gmelin.

It should be further added, that the Virginian owl is considered by Buffon to be a mere variety of the species Bubo; but the two birds differing only in the position of the ear-like tufts of feathers on the head. We must allow, that it admits a doubt whether the Virginian owl be in reality a distinct species from Bubo, or not.

Bubo, in Surgery, is a term derived from the Greek Bubo, bignon, which among the ancients had various significations; viz. the inguinal region or groin; an inflammation and swelling of the absorbent glands in the groin; an inflamed or suppurring gland at the bend of the elbow, or under the armpit; a phlegmonous tumour behind the ear, in the neck, or in some other external part of the body, accompanied with febrile symptoms, &c. Vide Defin. Med. Corhiz. et Elcemon. Hippos. Fust. Art. Bubo.

As the remote causes and consequniences of buboes are various, so there have been numerous pathological distinctions introduced; many of which, however, are of but little importance to the practical surgeon: for example, lentigine bubo, malignant bubo, phlegmatic bubo, lymphatic bubo, gangrenous bubo, serofusus bubo, variolous bubo, febrile bubo, erythematous bubo, lymphomatic bubo, idopathic bubo, confecutive bubo, &c. &c. The principal indications of buboes are not so much governed by the supposed character and name of the local disorder, as by the nature and tendency of its remote cause: which being detected and removed, will very seldom leave any doubt as to the choice we should make of topical remedies. To describe all the possible causes, symptoms, concomitants, and secondary effects of buboes, in whatever part of the body they may arise, with their various modes of treatment, would be to write a large volume.

Our present business will be, to give only a short account of the principal diagnostic signs of buboes, and their surgical management in ordinary cases.

Bubo are distinguished from other tumours by one or more of the following circumstances:

1. By their local situation. They are only to be found in the course of the lymphatic vessels; i.e. chiefly along the inner side of the leg and thigh, ascending to the groin; also upon the under surface of the arms, going towards the axile; or, upon either side of the neck, and underneath the lower jaw.

2. By their form and structure. These glands are usually roundish or oblong; at the beginning of the inflammation, and for a short time after, they are hard, or but slightly compressible; they are movable among the cellular membrane, by which they are surrounded; they have very little sensitivity on being touched, until the inflammation advances considerably; they are not, at first, attended with redness, or dilatation of the superficial skin; and when they are fairly suppured, the matter (being confined with a distinct capsule) does not recede upon pressure, like the pus in a lumbar abscess, &c.

3. By their progress and termination. They are commonly slow in taking on the inflammatory state, and in advancing to complete maturation. The symptoms will frequently remain a long time, even when their exciting cause has been apparently removed; and the discedent absorbent glands will be apt to inflame repeatedly, with longer or shorter intermissions, after their natural structure has been once disregarded.

4. By the manner of their first appearance. Buboes often appear in clusters, accompanied with induration and enlargement of the neighbouring lymphatic vessels, which resemble tense cords under the skin; they never arise suddenly, like ruptures and false aneurisms, alluming a large bulk in a very short period; they may generally be ascribed to the presence of an acid matter, or other cause of local irritation, affecting the adjacent orifices of the absorbent vessels; though, occasionally, buboes will originate from morbid action excited in the glands themselves by cold, &c. or by some vitiated and poisonous fluid, which, after circulating through the system of blood-vessels, is deposited in the glandular substance.

We have known a small crural hernia in a strangulated and irreducible state, mistaken by a celebrated practitioner for an enlarged and indurated lymphatic gland. An incipient true aneurism has been also treated as a suppurating bubo, and even been advised to be opened with a lancet, to the great hazard of the patient's life. Another mistake, not much less serious than these, we have likewise witnessed; viz. that of the operation for an aneurism being proposed at an hospital, in a case where the patient had had deep gladiolar abscesses or buboes situated over the femoral artery, which might therefore communicate a feeling of pulsation to the examiners. This patient, having been terrified at the proposed operation, left the hospital abruptly, and languished for some months under repeated evacuations of pus, &c. from the discedent glands. His disorder was not clearly understood, until after the man's decease, when it was minutely inspected, and proved to be as stated above. Such cases shew the great difficulty, as well as the importance, of forming a just diagnosis of glandular affections under particular circumstances.

We shall now suggest a few hints for the general management of buboes.

Treatment of a Simple Bubo.

All kinds of buboes may be included under two heads; the simple and the complicated. In the former, we are to
to suppose there is no malignity arising from the presence and action of any poisonous matter or acrimonious fluid in the bubo; for when that is the case, regard must be paid to the existing cause, and peculiar means should be adopted, with a view to remove the latent virus from the system.

A simple bubo generally terminates, either by resolution or suppuration. There are circumstances, under which no art can prevent a suppuration; but, whenever it can be prevented, we should endeavour to resolve the tumour, by what are called dissecutum or antiphlogistic means. The most powerful remedies of this class are, local bleeding by leeches, cold fumigation applications, perfect rest of the member affected, saline purgatives, and moderate or sparse diet. But, if the inflammation be not considerable; if the tumefied gland remain indurated; and there be no obvious source of topical irritation, which we hope to get rid of by the gland maturing; we may then, with a design of resolving the induration, employ lightly stimulating means: such as, dry cupping, electrical sparks, volatile liniment, camphorated oil, mercurial friction, warm farinaceous poultices, and fomentations, &c. At the same time we should direct the patient to use rather a generous diet, with warm clothing, and moderate exercise.

Suppose, however, that the dissecutum gland goes on to a state of suppuration, which often will happen in spite of all the efforts we can employ to obviate it; a condition arises, when the pus has formed, whether or not the abscess should be opened? Some surgeons advise us, in all cases, to leave buboes to themselves, to let them burst, and never interfere with the natural process. This conduct, or rather negligence, we do not wholly approve; for it often occurs, that the pus infiltrates itself widely before it finds vent; and then, perhaps, only oozes by little and little, while the skin remains hoary, scedoid, and unhealthy. On the other hand, if a simple incision be made with a lancet through the skin, the fore will not always heal readily, and the surgeon incurs blame for not perfecting what he began.

The common rule to be adopted, and which we have observed to be followed with the best effects, is, to let the tumour break of itself, if it be situated in the face or neck, where we always will to avoid a scar; but in other cases, to open the abscess with a cadle, in preference to the knife, in order to destroy a small circular portion of skin. If the gland underneath be very much indurated, and the suppuration does not soon come on kindly, nor the healing process advance, we apply red-nitrate of mercury, either by itself, or mixed in some ointment, every day, until the fore assumes a more healthy aspect; still continuing the cataplasm, as long as the morbid hardness remains. See Caustic and Abscess. Should the edges become callous and indolent, not being disposed to cicatrice, they may be now and then touched with the cadle, or with an echiromatic lotion. Attention must be paid likewise to the patient's ordinary state of health, and such a plan of conduct pursued, as may be indicated by the existing circumstances.

Treatment of the complicated Bubo.

A bubo may be dependent on another disease; and is then to be considered not as a local or primary affection, but as symptomatically of the original malady. Buboes are extremely common, as a symptom of the venereal disease, plague, scrofula, measles, &c.

In the last venereal, indeed, it but seldom (in comparison with other symptoms) occurs as a sequel of the general contamination, but mostly precedes it. The syphilitic infection, very frequently produces buboes in the first instance, before the whole system has been vitiated; though, in some few cases, this order is reversed. And, whenever we believe the venereal bubo to be a primary or local disorder, unattended with absorption of the virus, our treatment should be much more lenient and topical than in other cases, where we suspect the contrary. See Lues Venera, and Syphilis. We are perfectly convinced, that great mischief has been done by the indiscriminate and free use of mercury in venereal buboes, especially if they have exiled only a short time. Innumerable facts prove that other means, besides a course of mercury internally, will cure venereal buboes; and in particular we may appeal to the effects produced by nitric acid, as recently detailed by Dr. Rollo, Mr. Pearson, Mr. Platt, Dr. Beddoes, and Mr. Blair.

With reference to this subject, and to show that a salivation has not been universally regarded as necessary for the cure of syphilitic buboes, we shall quote the words of the medical gentlemen of St. Thomas's hospital, who thus express their opinion in a little work printed for the use of their pupils, A. D. 1775.—"If the patient has a suppuring bubo, you should not only wait until it is suppurred and opened, but until it be so near healing, that you may be sure it will be cicatrized before the salivation be over. From a neglect of this caution, you will sometimes have tedious, painful, and plagueodic fores remaining. Mercury will often exasperate than dispel them to heal." See General Rules in raising a Salivation, &c. p. 4.

Whatever be the nature of the disease which occasions buboes to arise, we should principally direct our attention to that disease, and not to the treatment of the local symptoms. Consequently the remarks we have to offer on the management of pellucidal buboes, serofoul buboes, &c. must be deferred for other articles in the Cyclopaedia. See Plague, Fever, Scrofula, and Measles.


Gen. Char. Col. Umbel univerfus, of about ten rays, the middle ones shorter; partial, of from fifteen to twenty rays. Indeovul univerfus, of five leaves or more. Leaves lanceolate-acuminate, spreading, equal, much shorter than the umbel, perennial; partial with rather more leaves of the same shape, as long as the partial umbel. Perianth purpureus, scarcely visible. Flowers all fertile, forming an uniform umbel. Cor. petals five, lanceolate, inflected. Stam. filaments five, fimple, as long as the petals; anthers fimple. Pericarp, germin ovate; inferior; styles two, brifkit-shaped, permanent, scarcely the length of the corol, spreading and refpected; flimbus obtuse. Pericarp none; fruit dividing into two, crowned. Seeds two, ovate, flat on one side, convex on the other, flattirad.

Eff. Char. Fruit ovate, flattened.

spreading near the surface of the ground. **Umbs** terminal, the stem and branches short, white; peduncles and leaves of the involucre pubescent. Miller and La Marek. **Sclerotic-acute**, of a bay-brown colour; ovate, large in the winter, gummiferous. Like B. introduced (lem fig. 2). The seed is barbed.

**J. F. Smith**

**B. globifera**, a low perennial plant with the habit of a small fern. Stem about a foot and a half high, cymidrical, glabrous, but little branched. **Lower leaves large**, tomentose, with entire margins. &c.

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**Propagation and Cultivation.**—**B. maceedum** is propagated by seeds, grown in light sandy soil, either early in the autumn, or in April; if the scapes prove hot and dry, the ground should be shaded in the middle of the day, and frequently watered. In the beginning of October, the plants should be transplanted into a warm dry border, and a few of them put into pots to be sheltered under a frame, in case the winter be severe. The seeds of galbanum and gummi-ferum should be sown in pots filled with light loamy earth, as soon as they arrive. If it be in autumn, they should be kept during the winter in a bed of briers' bark, where the heat is sustained. In spring, the plants will come up, and in April, should be carefully transplanted into fresh pots filled with the same kind of earth. After having remained in the bark till they have taken root, they should be gradually enured to the open air, and may be placed in June with other exotical plants in a sheltered situation. In winter, they must be kept in a green-house, where they should have but little water. Miller's Diet.

**Bubon**, in Ancient Geography, a town of Afa Minor, in Caballia, over against Caria. This city, according to Pliny, (I. v. c. 27.) was situated in the vicinity of Great Cythra, and had, with this and two other cities, formed a league, offensive and defensive, called the "league of the four cities." When the prator Murena, in the year of Rome 670, dismembered the state of Cythra, the town of Bubon was annexed to Lycia. According to Steph. Byz., this town, and also that of "Balbuth," derived their names from the pirates who founded them.

**Bubonium**, in Botany, Tabern. See Inula Salicinus. **Bubonius**, Lapis, in Natural History, is a figured stone, in shape resembling an owl's head, of a flinty sub stance, black within and cinnereous without; it was thus denominated by Dr. Plott, having not before been named by naturalists. Plott's Oxford, ch. v. § 45.

**Bubonocelis**, in Surgery, is a tumour in the groin, formed by the protrusion of the intestines, or omentum, through the openings designed for the passage of the spermatic cord, in the male, and the round ligament in the female.

It appears first in the groin, at an aperture, situated midway between the symphyses pubis and superior spinosus processes of the ilium, and which may be properly called the superior abdominal ring, and then passing obliquely downwards and inwards, it emerges at the inferior abdominal ring in the tendon of the external oblique muscle, and appears within the femur. When placed in the groin, surgeons usually call it the inguinal hernia, and when it has extended into the femur, it is termed femoral hernia. The protruded parts are contained in a fascia formed by the peritoneum; and when the tumour remains in the groin, it is placed under the tendon of the external oblique muscle, but when it descends into the femur, it is covered, both by a fascia given off by the external oblique muscle, and by the cremaster. The spermatic cord usually passes behind the fascia, through its whole course, but it has been found in some instances divided by it, and in others, passing before the tumour. The epigastric artery is placed near the mouth of the fascia, sometimes on the inner, but most frequently on its outer...
outer side. This hernia may be distinguished from other diseases of the ferotum, with which it is liable to be confounded, by the following marks:

1. By its dilating under coughing. 2. By its disappar- ing in the recumbent, and re-appearing in the erect posture.
3. By the gradual progress of the disease from the groin to the ferotum. 4. From its feel, which is irregular, and doughy, where omentum is contained, but elastic and regular, if it contains intestine; and where the intestines return into the cavity of the abdomen, it recedes with a gurgling noise.

The inguinal hernia is more frequent on the right, than on the left side, probably, because our strongest exertions are made on that side; and the inguinal hernia in the male is more frequent than any other species, on account of the magnitude of the abdominal rings.

This hernia exists in the three following states:

1. Retractile, when the parts can be returned into the cavity of the abdomen. 2. Irreducible, when they cannot be returned. 3. Strangled, when they are inflamed and obstructed by the effects of pressure.

In the reducible state, a frett truss must be applied, the pad of which should press upon the upper abdominal aperture; for the object in wearing it is to close the communication between the hernial sac, and the abdomen, by adhesion, which can only be effected by the pressure being applied upon the mouth of the sac. Trusses are faulty in this re- spect, being made to press upon the pubis, instead of midway between the pubis and sphenous process of the ilium. A double truss is required if there are two hernias; the con- striction of which differs from the others, in having two pads instead of one.

When irreducible, it grows to an enormous size, the ferotum often becomes disfigured, and the person is always liable to accidents. It is therefore necessary that some means should be adopted to prevent its increase. If it is an omen- tal hernia, a frett truss may be safely worn, which will prevent any further protrusion; but if it is intestinal, a bag truss should be applied, which ought to lase upon its fore part, and thus, by preventing a constant pressure upon the part, any increase of the tumour is prevented, and even its size will gradually diminish.

The strangulated state is produced by the pressure, either of the abdominal ring, of the mouth of the hernial sac, of the edges of the aperture surrounding the mouth of the sac, or by a cord formed by adhesion within the sac, which be- comes entwined around the intestine.

Whatever is the cause, it becomes necessary to liberate the part from pressure, or the person cannot long sur- vive.

For this purpose, it is proper to put the patient in a supine position, with the body a little bent, and the thighs raised to a right angle with the spine; so as to relax the rings through which the hernia has passed. The surgeon then embracing the lower part of the tumour with his right hand, and applying the fingers of the other opposite the orifice of the sac, kneads the swelling into the cavity of the abdomen. If this plan, after a trial of a quarter of an hour, does not succeed, the patient should be bled copiously, and put in a warm bath, and when faint from the operation of both the cau- ses, another attempt to return the tumour is to be made. If this is unsuccessful, a tobacco ointment composed of half a drachm of tobacco, infused in a pint of boiling water, is to be injected, and after some minutes should be repeated, if the ill has produced but little effect in exciting nausea and fainting. Another, and often successful mode of attempting the reduction, is by the application of ice enclosed in a bladder, and laid on the part; but if the abdomen is fore- upon pressure, no time should be lost in any of these trials, but an operation to liberate the bowels should be immediately performed, in the following manner: The patient is to be placed on a table three feet six inches in height, the body to be horizontal, and the legs hanging from the knees over the table, and the surgeon, standing between them, makes an incision from the upper part of the tumour through the skin, and then successively and cautiously, through the fascia and cremaster muscle, and this exposes the surface of the hernial sac. This being pinched up between the fingers, is to be opened by a very small incision, and a director being introduced, the sac is to be cut to within an inch of the ab- dominal ring, in the oblique muscle to its lower part. The intestine or omentum is thus exposed, and a small quantity of fluid generally escapes. The finger is then to be passed into the sac towards the abdomen, and the feast of the struc- ture examined. If the structure is at the abdominal ring, the probe-pointed bistoury should be passed between the sac and the ring, and the latter only cut in the direction of the tumour, and no danger whatever results from doing this.

And, if the structure arises from the pressure of the parts forming the upper aperture, the knife is to be passed in the same direction as before, but further under the tendon of the external oblique, and the upper part of this aperture is to be cut in the same direction as the former. But when the mouth of the sac itself girt the contents, it must be di- vided as follows: The finger is to be thrust within the sac to the structure, and then the probe-pointed bistoury carried along the middle of the finger is infiltrated within the structure, which is to be cut upwards or forwards at the middle of the anterior part of the hernial sac. The epigastric ar-tery has been found on either side of the mouth of the sac, but it is never situated on its anterior part, and this, there- fore, is the part which should always be cut.

When a band is entwined around the intestine, or omen- tum, it is safely seen, and as ready divided.

The structure being divided, and the intestine or omentum being found free from mortification, they are to be returned into the cavity of the abdomen by small portions, and by gentle pressure; but if the quantity of omentum is large, a portion of it should be cut away, and ligatures applied upon the divided vessels.

When the hernia is very large, and has been long irre- ducible, it is right to divide the structure at the abdominal ring, (which is in a large hernia the usual seat of the struc- ture) without opening the hernial sac. The incision for this purpose is to be made through the skin, over the neck of the tumour, so as to expose the ring and the fascia, which it sends off: an opening is to be made through the fascia, and a director passed under the abdominal ring, which being di- vided, the contents of the tumour will be liberated from pres- sure.

When an inguinal hernia is so small as to extend no further than the upper part of the ferotum, the operation is to be be- gun midway between the pubis and the ilium over the tumour, and the incision carried as far as the hernia extends. The tendon of the external oblique muscle which is exposed by the division of the skin, is next to be cut through, and the hernial sac being then seen, is to be opened in a very cautious manner. The structure which is situated, either in the sac itself, or occasioned by the edges of the upper ring, is then to be cut in a direction parallel with the linea alba.

The inguinal hernia in the female is not so frequent an occurrence as in the male, because the abdominal rings are less. It passes through the same apertures as in the male, and when large, extends itself into the labium pudendum. It requires the
the same trunks in the reducible state, as that worn by the male, and when triangular, it demands the same means
for reduction. If the operation is required, it is to be per-
formed in the following manner. An incision is to be made
from the upper part of the tumour to the lower, and along
its middle, and when the skin is thus divided, a facia is
exposed which covers the sac, which being next cut through,
the sac becomes exposed, and is to be carefully opened, and
the structure felt for. If it is situated at the ring of the ob-
lique muscle, the probe-pointed bistoury must be passed be-
tween the sac and the ring, and then cut upward; but if the
structure is at the mouth of the sac, the bistoury is to be
passed within the sac, and the structure is to be felt at the
anterior and middle part of the mouth of the hernial sac.

(Guazuma Juff. 279. Ventenat 3. 1712. La Marek, Bofe.) Clavus and order philadelphia dudensandria. Nat. Ord. co-

Gen. Chas. Col. Perianth three-leaved; leaves ovate, concave, acute, reflexed, deciduous; two a little larger. Cor. Petals five, concave or hollowed, in the shape of a
pouch at their base, lengthened at their summit into a long
broad band, inserted into the perianth at the base. Nectary
a bell-shaped pitcher, divided into five equal, lanceolate, sharp,
minute, upright segments, spreading a little at the tip.
Stam. Filaments five, filiform, upright, bent outwards at
the tip, outwardly falcated to the perianth, and alternate
with its segments, trifid at the tip; anthers three on each
filament, two at the tip on each side, the third a little lower,
each placed on one of the divisions of the filament; the cells
margined. Fil. germ superior, roundish, hispid; Ayle fili-
form, about the length of the filaments; stigma simple,
bearded, but not divided. Pericarp, capsule, (Drupe, La
Marek) subglobose, woody, mucrinated all round with club-
shaped tubercles, punched with a tenfold fimbry of small
transverse holes, five-celled, valvifers, not opening; part-
tions woody-fibrous; cells covered on the inside with a thin
membrane. Seeds numerous, angular, almost reniform,
attached in a double row in each cell to the common central
receptacle.

Olf. Juffieu, Ventenat, La Marek and Bofe call the five
segments of the perianth, barren filaments, and describe its
lower part as a tube formed by the union of all their ten
filaments. Schreber says, that the capsule is terminated by a
five-rayed leafy flap; but there is no appearance of such an
appendage in La Marek’s figure, nor is it mentioned by any
other author. According to Swartz, the rind is perforated
like a fieve, referring, doubtless, to Schreber's ten-fold
series of little transverse holes, improperly translated by Mr.
Martyn, dots, through which we presume, the ripe seeds
escape; and, if we rightly understand Schreber’s rather ob-
scure description, there is one for each seed.

Eff. Char. Perianth three-leaved. Petals five, lengthened
into a biphid awn. Authors three on each filament. Stigma sim-
ple. Capsule mucrinated, perforated with holes, five-celled,
valvifers.

Species, B. Guazuma, clav-leaved Bubroma, or baldard
Reichelb. Swartz obf. 291. Brown Jam. 306. 1.) La
Marek, Pl. 617. A tree forty or fifty feet high. Trunk
nearly the fize of a man's body, covered with a dark-brown,
furrowed bark. Branches extending nearly horizontally;
somier once leafy, tomentose. Leaves alternate, ovate, acu-
nitate, a little heart-shaped, obtuse and unquerally ferrated,
glossy, bright green on their upper, and pale on their under
surface, with a strong midrib, and several transverse veins;
petioles tomentoche, a little thicker than the leaf; Ripules
linear-awl shaped, approximating to the branches. Radicem
oryzifo, auxiliary. Flowers small, pale yellow; axu
purpurea. A native of the East and Welf Indies. In the
West Indies it is planted in rows to make a shady walk. For
this purpose, it is pollarded at the rainy season, when nine
or ten feet high, within a month of which operation, it is
covered with foliage, and forms a head more than six feet in
diameter. As it is liable to suffer by the wind, its upper
branches are lopped every five or six years. Cattle are fed
on its leaves and fruit in dry seasons, when other forages
is scarce. Its seeds are very muscillaginous, but agreeable
to the palate. The wood is light and easily wrought, and
is employed for coach pannels. A decoction of the inner bark
is very glutinous, and very like that of the elm. It is said
to be excellent in the lembantia, a disorder to which the
arguments are much ful fect.

Propagation and Culture.—This tree was cultivated in
England by Mr. Miller, in 1733. La Marek’s description
was formed from a living plant which flowered in the lobe
of the royal garden at Paris, about 1788. The seeds must
be sown in a hot bed in the spring, and when the plants
are fit to be removed, should be put into separate pots, and
bured in the same way as the coffee-tree.

BUBRY, in Geography, a town of France, in the de-
partment of Morbihan, and distriet of Lorient, 10 miles
N.N.E. of Hennebont.

BUCK, in Geography, an English antiquarian, was
the descendant of an ancient family, and was born in
Lincolnshire towards the close of the 16th century. In
the reign of James I. he was made one of the gentlemen of
his Majesty’s privy chamber, and knighted. The work by
which he was chiefly distinguished was his “Life and Reign
of Richard III. in five books,” in which he takes great
pains to vindicate that prince’s character. But in this
attempt he evinces more zeal than judgment, and his work
is a pedantic, rhetorical panegyric, rather than a judicious
and impartial history. It is printed in bishop Ken nett’s col-
lection of the English Historians, London 1706 and 1719.
He was also the author of “The Third Universitie of Eng-
lund; or, a Treatise of the Foundations of all the Colleges,
ancient Schools of Privilege, and of Hones of Learning
777; and of Liberal Artts, within and about the most famous Citie of
London, &c.” written in 1712, with a view of shewing
that all the arts and sciences are taught in the metropolis,
and annexed to the edition of Stow’s Chronicle by E.
Howes, London, 1651. He composed likewise a treatise of
“The Art of Revels.” Camden represents him as a
perfon of excellent learning, and acknowledges obligations

BUCA, in Conchoology, an old name for buccinum.

BUCA, in Ancient Geography, a town of Italy, in the
country of the Frentani, situate on the sea-coast.

BUCA EPHALALUM, in Botany. Pluk. See Sar-
RACENIA.

BUCAO, in Ornithology, a name given in the Philippine
islands to a species of creech-owl, which is the size of a
peacock. It is very common in those islands, but wholly
unknown to us. It is a very beautiful bird, but makes a
hurricane noise in the night.

BUCADEFITITI, or BUCARDITA, in Natural History.
a name given by many authors to a fone in some degree re-
sembling the figure of an ox’s heart. It is usually of the
substance of the coarser stones, and is no other than a quanti-
ty of the matter of such stone received while moist into the
cavity of a large coeleck, and then affuming the figure of the
the inside of that shell, the depression of the head of the cockle, where the cardo or hinge of this shell is, makes a long and large dent in the formed male, which gives it a heart-like shape. Plott mentions a bucardite, which he found at Stratford in Staffordshire, which weighed twenty pounds, though broken half-way, curiously reticulated, with a white spar-coloured lown. Nat. Hist. Oxf. chap. v. § 745.

BUCARDIUM, in Conchology, with old authors, a name applied to the bull's heart chama, Chama cor of Linnaeus; and, in a more general sense, as a generic title for all the cordiformes, or heart shells in the chama, the vortex, and the area genera. Bucardi of the French, comprehends the subcordiform shells of the genus Cardium.

BUCArelli, in Geography, a large bay on the North-west coast of America, discovered by Don Juan de Ayala, a Spanish navigator, in 1775. It was named "The entrance of Bucareli," by Don de la Bodega and Don Manuelle, in honour of friar Don Anthony Maria Bucarelli, of Urfa, viceroy of Mexico, and was visited again in 1779, by two frigates under the command of Don Ignace Arteaga and Don de la Bodega, in 1779. The entrance of this bay is situated, according to the determinations of La Perouge in 1786, in about 15° 15' W. long. from Paris, and according to the observations made by Capt. Cook in 1778, of the coasts near this entrance, very nearly 22° E. long. from Greenwich, or 135° W. from Paris, and in N. lat. 55° 15'. The Spanish commandant caused a complete survey to be made of this gulf, which runs upwards of eight leagues inland, contains several large islands, and presents in its circumference 11 fine harbours, where ships may anchor with safety. Maurelle says, that he does not know a single port in all Europe that could be preferred to that of Santa Cruz, which was the name they gave to the port at which their frigates anchored, and which is situated at the entrance of the gulf on its east coast. Maurelle met with but few habitations in his expedition; seeing only one village, situate at the top of a steep mountain, which could only be ascended by a flight of steps, or rather wooden ladder, whence, if the foot slipped, one must fall down the precipice. For an account of the inhabitants, &c. See Cross Sound.

BUCAROS. See Alcarrazas.


BUCALES glandule, in Anatomy, the mucous glands of the mouth, which are situated beneath the membrane which lines the cheek. See Mouth.

BUCAANERS, or Bucaneers, a term frequent in the West Indies, properly used for a kind of savages, who prepare their meat on a grate, or hurdle, made of Brafalwood, placed in the smoke, at a good height from the fire, and called bucan. Whence, also, the little lodges, raied for the preparation of their food, are called buccanos; and the action of dreelling it bucaning.

Meat bucaned is said to have an excellent taste, the vermil colour of a rofe, and a charming smell; all which it retains many months. Oxcemia, from whom we have this, adds, that the neighbouring people fend their sick litter; that, by eating their bucaned meet, they may be recovered.

The origin of the word is referred to the people of the Caribbee islands, who used to cut their prisoners of war in pieces, and lay them on hurdles with fire underneath, which they call bucaning, i.e. roasting and smoking together: hence our bucaners took both their name, and their custom; with this difference, that what the former did to men, these did to animals caught in hunting.

The Spaniards, Savary tells us, called the bucaners in their territories mataadores, that is, killers; and monteros, that is, hunters: the English call theirs, cow-killers.

The bucaners are of two different professions: the one only hunt bulls for their skins; the other beasts for their flesh.

The art of bucaning, Oxchemia describes thus: the beast being flaid, and the bones dripped out, the flesh is cut into pieces of the length of the arm, and salted, and the next day laid on the bucan which consists of twenty or thirty bars laid across, half a foot from each other: under this they raise a thick smoke, adding the skin and bones of the beast, to heighten it.

This is found varly better than any simple fowel: because the volatile faiis of those parts are by this means communicated to the flesh, and give it such a relish, as that, after a little of this bucaning, the least palate will eat it without further preparation.

Bucaneers are usually confounded with freebooters, from whom, in fricotions, they ought to be distinguished. The ancient inhabitants of Hispianola, and the other Caribbee islands, after their conquest by the Europeans, confided four ranks or orders of persons, viz. bucaners, or bull-hunters, who scourd the woods; freebooters, who scourd the seas as pirates; buonadens, who tilled the land; and floros. Of these the two first distinguished themselves most by their military disposition, and the ravages they made, especially among the Spaniards.

The name is particularly given to the French inhabitants of the island of St. Domingo, whose sole employment is to hunt bulls or wild boars; in order to fell the hides of the former, and the flesh of the latter. The French bucaners packed their hides in bundles, which they called loads, and which consisted of those of full-grown bulls, of young bullocks, and of cows. Each load was formerly fold for about six pieces of eight rials; the French coins not being current in the island of St. Domingo. The boar meet, previously seasoned, was also fold by the bundle or pack, weighing commonly 60 pounds, at the rate of six pieces of eight per pack. It was packed up in palmetto leaves, the weight of which was deducted; so that each pack contained 60 lbs. of bucaned meat. These bucaners had also a great trade in the land of boars, which they melted and deposited in large pots, which they called "pottiches." This lard, which is called mantegue, is also fold for about eight pieces of eight per pot.

Of this article there were a great consumption and trade in the French settlements of the islands of St. Domingo, and in those of Tortuga; beside which they sent great quantities of them to the Antilles, and even into the continent of French America. There was also a great deal of it fold for the support of the crews of the ships that came from France for trading, or which the privaters of Tortuga fitted out for cruizing against the Spaniards. The Spaniards also, who had their bucaners, under the appellation of "mataadores," or "monteros," and who were employed in bull-hunting, prepared their hides after the manner of the French; and these hides found a ready market at the Havannah, a famous harbour in the island of Cuba. From hence they were brought by the flota and galleons, which touched at this port, in their return from Vera Cruz and Porto Bello, to Spain, and under the denomination of Havannah hides, were esteemed the belt of any that were brought from America to Spain.

Sometimes the word bucaner signifies also those famous adventurers of all the nations in Europe, who joined together to make war against the Spaniards in America: and, as under,...
BUCCANEERS.

under that name, their history has been published in the year 1686, by Alexander Oliver Oestenolia.

These adventurers had taken possession of the small island of Tortuga, as early as the year 1621, and found little difficulty, after having excluded the Spaniards, and fortified themselves in this island, in establishing themselves on the northern coast of Hispaniola. They at first subsisted chiefly by the hunting of wild cattle. Part of the beef they ate fresh, and part they dried; and the hides they sold to the masters of such vessels as came upon the coast, and who furnished them, in return, with cloaths, liquors, fire-arms, powder, and shot. Their dress consisted of a shirt dipped in the blood of the animals they had slain; a pair of dirty trowsers; a leathern girdle, from which hung a short fabre, and some Dutch knives; a hat without any rim, except a flap before, in order to enable them to pull it off; and shoes made of raw hides; but they wore no stockings. When the wild cattle became scarce, these buccaneers were under a necessity of turning their industry to other objects. The more sober minded among them applied to the cultivation of the ground, which abundantly required their toil; while those of a bold and reftless disposition associated themselves with pirates and outlaws of all nations, and formed the most terrible band of ravagers that ever infilled the ocean. To these ravagers, however, rendered famous by their courage and their crimes, France and England are indebted, in some measure, for the prosperity of their settlements in the West Indies.

These piratical buccaneers, assuming the name of the "Brothers of the coast," formed themselves into small clans or societies; and made their excursions in open boats, each of which generally contained between 20 and 30 men, exposed to the intemperance of the climate, and encountering alternately the freezing heat of the day, and the chilling damp of the night. The natural inconveniences, connected with this mode of life, were augmented by others arising from their licentious disposition. A love of freedom and independence, by which they were actuated to a degree of frenzy, in common with other savages, rendered the buccaneers averse from all restraints which civilized men impose upon themselves for their common happiness; and as the authority, which they had conferred on their captain, was chiefly restricted to giving orders in battle, they lived in the greatest disorder. Like savages, having no apprehension of want, and taking no care to guard against famine by prudent economy, they were frequently exposed to all the extremities of hunger and thirst. But deriving, even from their destitute, a kind of courage that defied all danger, they were transported with an astonishing degree of enthusiasm whenever they saw a fall. On the mode of attack they seldom deliberated, but it was their custom to board the ships that fell in their way as soon as possible. The smallness of their own vessels, and their dexterity in managing them, preferred them from the fire of the enemy. They preferred only to the broadside of a ship their slender prows, filled with expert markmen, who fired at the port-holes of the enemy with such exactness, as to confound the most experienced gunners. When they could fix their grappling-tackle, the largest trading vessels generally were obliged to strike. In cases of extreme necessity, they attacked the ships of every nation; but those belonging to Spain were especially the principal objects of their piracy. They thought, that the cruelties, which the Spaniards had exercised on the natives of the new world, furnished a sufficient apology for any violence that could be committed against them; nor did they ever embark on any expedition without publicly praying to Heaven for success, nor return loaded with booty without solemnly returning thanks to God for their good fortune. This booty was originally carried to the island of Tortuga, the common rendezvous of the buccaneers; and at first their only place of safety; but afterwards the French went to some of the ports of Hispaniola, where they had established themselves in defiance of the Spaniards, and the English to those of Jamaica, where they could dispose of their prizes to greater advantage, and lay out their money more to their own satisfaction, either in business or in pleasure. Before the distribution of the spoil, each adventurer, holding up his hand, protested that he had secreted no part of what he had taken; and if any one was convicted of perjury, which seldom occurred, he was punished by being expelled the community, and by being left, at the first opportunity, on some desert island, as a wretch unworthy to live in society, even among the destroyers of their species.

After having provided for the sick, the wounded, and the maimed, and after having settled their respective shares, and distributed such as belonged to those who had no relations or friends, in charity to the poor, and to churches; they indulged in all kinds of licentiousness. When they were at sea, they dillufed themselves, and rapidly the spoil which they collected with so much personal danger? they replied, "Exposed as we are to a variety of perils, our lives are totally different from those of other men. Why should we, who are alive to-day, and run the hazard of being dead to-morrow, think of hoarding? Stifudious only of enjoying the present hour, we never think of that which is to come." The ships that sailed from Europe to America seldom tempt the aversion of the first buccaneers, as the merchandise they carried could not readily have been sold in the West Indies in those early times. But they eagerly watched the Spanish vessels on their return to Europe, when they were known to be laden with treasure. They commonly followed the galleons and fvela, transporting the produce of the mines of Mexico and Peru as far as the channel of Panama, and if any ship was accidentally separated from the fleet, they instantly befet her, and she seldom escaped. And they even ventured to attack several ships at once, which were commonly surrendered, when they came to close quarters; for the Spaniards considered them as demons, and trembled at their approach. The Spaniards, indeed, who armed themselves a continual prey to these various rapists, were almost reduced to despair; they left the number of their ships, and the colonies gave up their connections with one another. The buccaneers were thus emboldened; and instead of confining themselves to those invasions of the Spanish settlements, which had for their object a supply of provisoes, they determined, more especially as their opportunities of making captures by sea were diminished, to procure by land that wealth which they could not obtain on the ocean. Accordingly, they formed themselves into large bodies, and plundered many of the richest and strongest towns in the New World. Maracaybo, Campeachy, Vera Cruz, Porto Bello, and Carthagena, on this side of the continent, and Quayquill, Panama, and many other places on the coasts of the South Sea, very rarely suffered from their depredations. In a word, the buccaneers, the most extraordinary association of men that ever appeared on the face of the globe, but whose duration was transitory, subjected to their arms, without a regular system of government, without laws, without any permanent subordination, and even without revenue, cities and castles, which had baffled the utmost efforts of national force; and if conquest, not plunder, had been their object, they might have made themselves masters of all Spanish America.

Among the buccaneers, who first acquired distinction in this
this mode of plundering, was Montbars, a gentleman of
Languedoc, who conceived from his youth a violent ani-
mitivity to the Spaniards, on account of the enormities
they had committed in the conquest of the New World, and
who, determining on retaliation, embarked about the middle
of the 17th century, on board a French ship for the West
Indies, in order to join these enemies of Spain. An enthu-
siasm which originated in humanity, at length became the
source of the most unfeeling barbarity; for so much did the
Spaniards suffer from the fury of this enthusiast, that he ac-
quired the name of the "Exterminator." Michael de
Bafo and Francis Lolonnois were also greatly renowned for
their exploits both by sea and land. The most important
enterprise, in which these leaders, with eight vessels and 600
associates, engaged, was that of the gulf of Venezuela.
This gulf runs up into the land for about 50 leagues, and
communicates, by a narrow strait, with the lake of Mar-
acybo. They began (A.D. 1667.) with flooring and
taking the castle, called "La Barra," which defended this
strait, and putting to death the garrison, consisting of 250
men; and they then advanced to the city of Maracybo,
built on the western coast of the lake, at the distance of
about 10 leagues from its mouth. But on their arrival, the
inhabitants had abandoned it and removed their most valuable
effects. Here they spent a fortnight in debauchery and
riot; so that when they proceeded to Gibraltar, a town at
the extremity of the lake, to which the flying inhabitants
had retired, they found it newly fortified, and after reducing
it at the expense of much blood, they took possession only
of an empty town. Exasperated at this second disappoint-
ment, they set fire to Gibraltar; and Maracybo would
have shared the same fate, if it had not been randomized.
But previously to this random, they depopulated it of its
dwellings, and the remains of the churches, intending, as
they fled, to build a chapel in the island of Tortuga, and to
confront that part of their spoil to sacred uses. But of all
the buccaneers, French or English, no one was so uniformly
fortunate and successful, or executed so many daring enter-
prises, as Henry Morgan, a native of Wales. While de
Bafo, Lolonnois, and their companions, were squandering,
at Tortuga, the spoils they had acquired in the gulf of Ven-
ezuela, he failed from Jamaica, to attack Porto-Bello; and he
conducted his measures so well, that soon after his landing,
he surprized the town and, making himself master of the
fort, (A.D. 1668.) before the Spaniards could put them-
elves into a posture of defence. In order to reduce the
citadel, whether the inhabitants had conveyed their most va-
table property, and the plate of the churches, he recurred to
the following artful expedient: he compelled the priests, nuns,
and other women, whom he had made prisoners, to plant
the scaling ladders against the walls of the fortresses, from a
persuasion that the gallantry and superstition of the Spaniards
would not suffer them to fire on the objects of their love and
veneration. In this imagination, however, he was deceived.
The Spanish governor used his utmost efforts to destroy
every one that approached the works; so that Morgan was
reduced to the necessity of carrying the place by storm.
Having thus succeeded, he took possession of a vast quantity
of rich merchandise, and also of bullion and specie amount-
ing to one hundred thousand pounds sterling. With this
booty Morgan and his associates returned to Jamaica; and
formed a new enterprise against Maracybo. Accordingly
he collected 15 vessels and 800 men; and with this arm-
ament (A.D. 1669.) entered the gulf of Venezuela un-
observed, silenced the fort that defends the passage to the
lake of Maracybo, and found the town totally deserted;
but he discovered the chief citizens, and the greater part of
their wealth in the neighbouring woods. He proceeded to
Gibraltar, which was left desolate; however, whilst he was
attacking, by the most horrid cruelties, to extort from the
inhabitants, whom he had seized, a discovery of their hidden
treasures, he was informed of the arrival of three Spanish
men of war at the entrance of the lake. Having recon-
noitred the enemy, he considered his condition as desperate.
Nevertheless, he concealed his apprehensions, and sent a let-
ter to the Spanish admiral, boldly demanding a ransom for
the city of Maracybo. The answer returned by the admiral
was a refolute, inflicting on his infuriating his bootie and
prisoners, with leave to return to his own country, or if he
refused, announcing his fixed purpose of putting every man
on the sword. Morgan and his associates deliberated; and
they at length determined to risk any consequence rather
than refuse their bootie, which they had gained with so much
peril. As the admiral adhered to his declared purpose,
Morgan informed him, that if he would not allow him to
pass, he would find means to effect his escape without his
permission. He accordingly divided the spoil, so that each
might have his own share of it to defend; and having filled a
vessel, taken from the enemy, with bullocks, he gallantly proceeded to the mouth of the lake, and having
burnt two of the Spanish ships and captured one, he
made a feint of disembarking men, in order to attack the
fort by land, and thus diverted the attention of the garrison,
whilst he passed the bar with his whole fleet, without receiv-
ing any damage. Morgan, having disposed of his bootie at
Port Royal in Jamaica, put to sea again (A.D. 1670.) with
a larger fleet, and a more numerous body of adventurers;
and after reducing the island of St. Catharine, heered for
the river Chagres, by which he intended to advance to Pana-
ma. At the entrance of the river floated a strong fortresses;
and arrow was shot from the bow of an Indian, and lodged
in the eye of one of his associates; but Morgan, pulling the
arrow from the wound, wrapped one of its ends in tow, put
it into his loaded musket, and discharged it into the fort;
and this arrow falling on the roof of one of the houses,
which, according to the custom of the country, were con-
structed of wood, and covered with straw, set fire to it;
and thus the Spaniards were thrown into the utmost con-
fusion. After the death of the governor, who bravely
perished with his sword in his hand, at the head of a few
refolute men, the place surrendered to the assailants.
Morgan proceeded up the river to Creques, and thence by land to
Panama, and, after several reconnaissances, took quiet posses-
sion of it, and deliberately pillaged it for some days. Here he
met with a fair captive, who inflamed his savage heart with
love; and finding all his solicitations ineffectual, he made a
forcible attempt on her person. "Stop, ruffian," she ex-
claimed wildly, and prising from his arms: "Stop! thinkst
thou to ravid from me my honour, as thou hast wrenched
from me my fortune and my liberty? No! be assured that my
soul shall sooner be separated from this body:" and she drew
a poniard from her bosom, which she would have plunged into
his heart, if he had not avoided the blow. Enraged by this
vicious resistance, Morgan threw the female into a loathsome
dungeon, and endeavoured to subdue her by severities. But
his followers became clamorous on account of his detention
of them to no important purpose, and constrained him to re-
linquish this amorous pursuit. Before their return, the
booty was divided, and the share of Morgan himself amount-
ed to 100 thousand pounds sterling. This wealth he carried
to Jamaica, and never more engaged in any piratical enter-
prise. Some have said (see Edwards's Hist. of the West
Indies, vol. i. p. 160,) that king Charles II., though he
issued public orders for the suppression of the hollities of the
bucc-
buccaneers, existed and received a share of their booty; and that this circumstance induced him to manifest peculiar favour to Morgan, to receive him graciously on his visit to England, and to confer upon him the honour of knighthood. Several other expeditions were formed by the buccaneers of the 17th century, against the Spanish settlements. Van Horn, a native of Oileud, who served almost through life among the French, was very active in his depredations. Associating, on one occasion, with 1200 other persons of the same description, and manning a fleet of six vessels, he failed to Vera Cruz, and, favoured by the darkness of the night, reached the place and landed without discovery. He and his companions made themselves masters of it without resistance; and having confined all the citizens in the churches, whether they had fled for shelter, they placed at the door of each church barrels of gun-powder, and a buccaneer with a lighted match to set fire to them, upon the last appearance of an insurrection. They then proceeded to pillage the city; and having carried off whatever they could find of value, they made a proposal to the prisoners, to ransom their lives and liberty by a contribution of 437,500. Half this money was paid them; but whilst they were expecting the other moiety from the interior parts of the country, they were alarmed by the flight of an European fleet of 17 ships, and reduced to the necessity of making a retreat, which they accomplished, by boldly falling through the Spanish fleet, carrying with them 1500 slaves. Other expeditions were concerted against Peru; and if the treachery of these numerous marauders had been directed by a skilful and respectable commander, they would have disappointed the Spaniards of this important colony. But their character prevented their union in a large and compact body, and their ready procrastination of the same object. However, they successively attacked the most considerable places on the coast of the South Sea, enriched themselves by plunder, and committed a great number of outrages. Others of the buccaneers associated with Gramont, a native of Paris, who had distinguished himself in a military capacity in Europe, and embarked with him, in 1685, to attack Camppechy. Having landed without opposition, after some resistance on the part of the Spaniards, they made themselves masters of the city; and after carrying off the treasures which they had collected in the town and its environs, and depositing them in their ships, they proposed to the governor of the province to ransom his capital. Upon his refusal they determined to burn the place, and to demolish the citadel. Accordingly they destroyed to the value of a million of logwood, which was a very considerable part of their spoil, and after this act of folly and frenzy, they returned to St. Domingo. At a subsequent period, viz. in 1697, 1200 buccaneers joined a squadron of three vessels, that failed from Europe, under the command of Pointis, to attack the famous city of Carthage. In this enterprise they succeeded, took the city, and acquired booty to the amount of 1,750,000l. After they had set fire, their rapacious commander attempted to deprive them of their spoil; upon which they resolved to massacre him; but being diverted from their purpose by one of their number, who proposed returning to the city, where their share of the plunder had been left by Pointis, they immediately failed towards Carthage. Having entered the city without resistance, they confined all the men in the great church, and demanded payment of 218,750l. which they alleged to be their share of the booty, of which they had been defrauded, accompanying their demand with threats of vengeance if it were resisted. A venerable priest ascended the pulpit, and by his eloquent address persuaded his hearers to surrender all the gold, silver, and jewels in their possession. But the sum raised falling short of that which was demanded, an order was issued for plundering the city. The adventurers, having amassed as much treasure as they could find, set fire; but unfortunately they met with a fleet of ships belonging to Holland and England, both of which nations were then in alliance with Spain, so that several of the pirates were taken or sunk, with all the cargo which they had on board their ships; and the rest escaped to St. Domingo. This was the last memorable event in the history of the buccaneers. The total separation of the English and French buccaneers, in consequence of the war between the two nations, which followed the revolution in 1650, very much weakened the force of the powerful plunderers: and the king of Spain also being then in alliance with England, repressed the piracies of his subjects in the West Indies. However the French buccaneers continued their depredations, and with no small success, till the peace of Rywick, in 1697; when all differences between France and Spain having been adjusted, hostilities were everywhere suspended; and not only the association, but the very name of this extraordinary class of men, became extinct. They were lost among the other European inhabitants of the West Indies.

Before this period, however, the French colony in Hispaniola had arrived at a considerable degree of prosperity; and Jamaica, into which the Spanish of Mexico and Peru were more abundantly poured, was already in a flourishing condition. The buccaneers found at Port Royal better reception and greater security than any where else. They could there land their booty with the utmost facility, and spend, in a variety of pleasures, the wealth produced by their piracy; and as prodigality and debauchery soon reduced them again to indigence, that grand incitement to their unimaginary industry induced them eagerly to concert fresh depredations. Thus the settlement derived benefit from their perpetual vicissitudes of fortune, and was enriched by their rapacity as well as by their profusion; by the views which led to their want, and also by their abundance. The wealth, which flowed into Jamaica through this channel, gave great activity to every branch of culture; and after the piracies of the buccaneers were suppressed, it proved a new source of riches, by enabling the inhabitants to open a clandestine trade to the Spanish settlements, whence it had its origin.

BUCCARI, Bukari, Bokari, or Bukri, in Geography, a town of Morlachia, in that district of Hungarian Dalmatia called Zengh, or Segna, belonging to Austria, and feated on a rocky eminence in the north-east part of the Adriatic. This town was declared by the emperor a free port for the commerce of the East Indies in 1786. The harbour, or rather the gulf of Buccari, or Bukaria, is commodious and safe; but a little exposed to the south-east wind, which sometimes makes it dangerous. From this place great numbers of cattle are shipped for Italy. N. lat. 45° 30'. E. long. 15° 15'.

BUCCATA, in Entomology, a species of Conops (Myopa, Fabr.). The prevailing colour of this insect is ferruginous; abdomen hooked, and grey; face veicular and white; wings clouded. Linn. Inhabits Europe.

BUCCATUS, a species of Oestrus, of a grifiose colour, with the face white, and dotted with black. Inhabits South Carolina.

BUCELLARI, a kind of loam, or cake of a circular figure, an order of soldiery under the Greek emperors, appointed to guard and distribute the ammunition-bread. The buccellarii were also called, in respect of their country, Gallograsi, or Helengalate, q. d. Greeks of Galatia; sometimes Maryandini.
Authors are much divided as to the office and quality of the buccellarii: some give the denomination to parasites in the courts of princes and great men, maintained at their table and expence. In reality, among the Visigoths, buccellarius was a general name for all clients or valets, who lived at the expense of their lords. Spelman rather supposes them to answer to what among us are called "tenants by military service."—Others represent the buccellarii as stationery soldiers in the provinces, who, when the emperor commanded, marched before and behind him as his body guard.—According to others, they were men whom the emperors employed in putting perfons to death secretly.

BUCELLATUM, formed from buceas, or buccella, a morcel, or mouthful of meat, in Ancient Military Writers, denotes camp bread or billet baked hard and dry, both for light and keeping. Soldiers always carried with them enough for a fortnight, and sometimes much longer, during the time that military discipline was kept up.

BUCCHEREST, or Bucharest, in Geography, a fortified town of European Turkey, and capital of Wallachia, seated on the river Dibravitz; the usual residence of the waywode, and the seat of a Greek archbishop. The Lutherans hold their assemblies here, under the protection of Sweden. The number of inhabitants is estimated at 60,000. N. lat. 44° 50'. E. long. 26° 45'.

BUCCINA, an ancient military metallic instrument, crooked like a horn, used in war; especially for proclaiming the watches of the night, and giving notice to the soldiers when they were to mount, and when to retreat.

The word comes from buceas, mouth, and cana, I sing; because played on by the mouth; others suppose it formed from Susam, or cuceam, which signifies the same; formed from Sus, bullcuck, and cana, I sing; because ancients made of bullocks horns: others from the Hebrew buk, a trumpet. Varro will have it to have been originally formed by anoma- tosia, from bow bow, alluding to the sound it gives. Others, with more probability, derive it from buccinum, the name of a shellfish.

The buccina is usually considered as a species of tuba, or trumpet; from which, however, in propriety, it appears to have differed, not only in respect of figure, which in the tuba was straight, and in the buccina recurved or crooked; but in sound, that of the buccina being harsher and audible to a greater distance than the trumpet.

The buccina approached nearest to the cornu, or horn: originally the two seem to have been the same; though in after times a difference arose: the name buccinum being retained to the former, and the cornu to the latter. Some also take the buccina to have been a's crooked than the cornu, which made a full semicircle.

Varro affirms us, that the buccina were also called cornu, horns; because originally made of the horns of cattle, as is still done among some people. Servius intimates, that they were at first made of goats or rams-horns; and accordingly, in Scripture, the like instruments used both in war, and in the temple, are called "rams-horns," kerem-jobal, and jopherath bujsherem, or buccinea of rams.

This instrument was in use among the Jews, to proclaim their fast-days, new moons, jubilees, Sabbath years, and the like. At Lacedemon, notice was given by the buccina when it was supper-time; and the like was done at Rome, when the grandees had a buccina blown both before they sat down to table, and after.

The sound of the buccina was called bucinus, or bucinus, and the musician who played on it, buccinator.

BUCCINA also denotes the space or extent to which the sound of the buccina may be heard.

BUCCINA auris, in Middle Age Writers, denotes the tympanum or drum of the ear.

BUCCINATOR, he that sounds or winds the buccina.

Among the Romans there was a public slave, denominated buccinator nominum, whose office it was to attend the public crier.

BUCCINATOR Musculus, in Anatomy, arises from the alveolus, containing the left grinder of the lower jaw, from the coronoid process, and from the tubercle behind the socket of the left grinder of the upper jaw; its fibres proceed over the membrane of the mouth, where it lines the cheek, and terminate extensively in both the lips and in the angle of the mouth. It may draw the lips backwards towards its posterior attachments, and when the lips are made fixed parts by the action of the orbicularis oris, it will thrill any matter intervening between the cheek and the cavity of the mouth into that cavity, for the purpotes of mastication and deglutition.

BUCCINATOR, in Entymology, a species of Hydarchus of an obovate form; colour red, black behind; tail cylindrical, yellow, and narrowed at the base.

Degree has this as acanthus caudatus. It is found on banks. The body is black beneath, eyes reddish, legs black.

BUCCINUM, in Botany. Dodon. gal. See Delphinium Confolida.

BUCCINUM, in Conelogy, a genus of univalves, described by Linnaeus as having the shell spiral and gibbous; the aperture ovate, terminating in a short canal inclining to the right, with a retinue tail or beak; and the pillar lip expanded. Animal inhabiting the shell a limax.

Linnaeus comprehends a vast number of species in his genus buccinum, which, for the sake of methodical uniformity and perspicuity, he places under several distinct sections; a mode of arrangement in which he has been closely followed by his editor, Germain, in the last edition of the Systema Naturae. We shall follow the latter writer, as usual, in the first instance, and afterwards notice certain alterations that have been made in the arrangement of the buccinum genus by other naturalists.

Amphiiacera, the first family, is distinguished by having the shell inflated, rotundate, thin, subdiagonal, and fragile. This section includes the species okarium, galea, perdis, pomum, dolium, caudatum, niveum, and elilaterum.

Cafficula caudata, in which the tail or beak is extended, short, relicted; lip unarmed externally. Many species are included in this section; namely, echinophorium, plicatum, corundum, rufum, tuberum, flammum, tellerus, decussatum, arcola, tigrinum, unudatum, catricicatum, teffellatum, penatum, maculatum, bilimentum, gibbum, ventricatum, lyrifugum, rugifugum, ponderofugum, frugatun, fucicatum, fucicicatum, ochroleumum, umbatum, eudum, litigatiun, tynthrum, and abbreviatum.

Cafficula anguliculata. Shells of this family have the posterior part of the lip prickly on the outside, but in other respects resemble those of the last section; the species are erinacoeus, glaucum, vibex, teffallatum, nodulatum, umbatun, papillosum, and glans.

Cafficula. These shells have the pillar lip dilated and thickened. The species of this tribe are few; namely, arcularium, pullus, gibusofugum, mutabile, and mericetus.

Dedici, in which the pillar lip has the appearance of being worn flat; harpa, colatum, perfoem, unudalam, patulum, hamatoma, lapillus, maragulatus, tuba, pyrum, papillosum, umbilicatum, candidum, scala, crassum, margintum, labyrinthus,


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The species of the buccus genus are tamatia, cayennensis, caperitis, elegans, macrohynchos, melanodon, philippensis, niger, parvus, grandis, viridis, Lathami, fulcus, rubricapillus, zeylanicus, dubius, and cinereus; which fee.

BUCCULA, in Anatomy, the fleshly part under the chin. Some extend the name farther to the whole lower part of the face, comprehending the under part of the lower lip, with the chin and the fleshly part under it.

BUCCULA, in Antiquity, denotes the umbo of a shield, or the part prominent in the middle thereof.

It is thus called, because usually made in the form of a mouth or face, either of a man or some animal. The like figures were sometimes also found on other parts of armour, especially on the lorice and tachetaes.

BUCENI, in Geography, a town of European Turkey, in the province of Moldavia; 38 miles N. N. W. of Galatz.

BUCENTAUR, the name of a large flat-veffel, used by the Venetians, in the ceremony of spouting the sea, performed each Ascension-day with much pomp.

The word comes from B U C E N T A U R , composed of Buco, a particle of augmentation, used to denote an enormous greatness, and centaur, Jutliniani adds two other etymologies: the first from Buco, and taurus, or rather centaur, the name of one of Xenes's vessels in Virgil: the other from bucentaurus, for dentatus, a word forged to signify a veffel capable of holding two hundred men.

Jutliniani gives a very precise description of the bucentaur, which is adorned with five pillars from both sides, and gilt from the prow to the stern, also covered over head with a kind of tent, made of purple silk; and he adds, that its origin is carried up as high as the year of Christ 1311, though others trace it higher, to the year 1177, when the emperor Frederic Barbarofo came to Venice, to make peace with the republic and the pope, to which time the pope, in consideration of the services the flate had done him, in sheltering him in their city, when he had been driven out of his own, granted them several privileges; and made a present to the doge of a gold ring, which is the origin of that, yearly cast by the doge, from the bucentaur, into the sea.

It is on Ascension-day, that the doge, being advanced in the bucentaur a little way into the gulph, throws a gold ring into the sea, and says, "We marry thee, O sea, in token of that true and perpetual dominion which the republic has over thee."

In this veffel the doge receives the great lords, and persons of quality that visit Venice, accompanied with the ambassadors, and counsellors of state, and all the senators seated on benches near him.

The archdeacons Maria Josepha, married to the prince of Saxony, on the day of her entry into Drifden, was received in a magnificent galley, finely rigged, and called a bucentaur, because built after the model of that of Venice.

A veffel of the same name, as large and magnificent as that of the Venetians, was constructed by order of the elector of Bavaria, and launched in a lake six leagues in length.

BUCEPHALA, in Entomology, a species of Bombyx, the anterior wings of which are cinereous, with two ferruginous streaks, and a large yellow terminal spot at the tip.

Gmel. &c.; called in English the boot-tip moth. Feeds on the lime, oak, willow, &c.

BUCEPHALA, or Bucephalus, in Ancient Geography, a town of India, on the west side of the river Hyndpse, built by Alexander on the site of his camp before his engagement with Porus, and so called (as Arrian says) in honour of his horse Bucephalus, which was killed, as some lay, in that action, or who died, according to Arrian, of old age, being about 30 years old, and was buried on this spot. "Heysch" says.
BUG fays, that this horfe derived its name from being branded on the buttock with the head of an axe. As he had been long the companion of the toils and dangers of his master, he shared extraordinary tokens of regard. When he was lost for a time in the country of the Uxii, Alexander liffed a proclamation, commanding his horfe to be restored, and threatening to ravage the whole country with fire and fword. The command was infantly obeyed. "So dear," fays Arrian, "was this horfe to Alexander, and fo terrible was Alexander to the Barbarians." Arrian. De Expd. Alex. lib. v. p. 219. 220. ed. Gronovii.

BUCHEPHA, a name given to a small town on one of the Iflands of the Greek Archipelago, now called "La Cava," which Alexander caufed to be built there in honour of his horse Bucephalus.

BUCHEPHALUS, in Ornithology, the name of a species of ANAS that inhabits North America. In the Arctic Zoology it is called the buffle headed duck. This kind is of a whitifh colour, with the back and wings black: the head large or tumid, guilty, and thinning.

Bufton calls this le petit canard à groffe tête. The bill is short, and either blue or brown: head black, glossed with green, or purple: collar and upper part of the breast white; lower part, with the abdomen, clouded brownifh: area of the wings white: tail cinereous: legs fulvous.

BUCHEPHALON, in Botany. Plum. See Trichos. BUCHEPHALUS, in Entomology, a species of Cryptocephalus of a cafonal colour, having the mouth, margin of the thorax, and the legs red. Fabr. Called by Schaller, Chryfomela bucephala.

BUCER, Martin, in Biography, an eminent German reformer, was born in 1491 at Schelestadt, in the province of Albia. At the age of seven years he entered into the order of the Dominicans; and having studied logic and philofophy at Heidelberg, he afterwards applied himself to divinity, and became a proficient in the Greek and Hebrew languages. At Heidelberg he held some conferences with Luther in 1521, and having previously perused fome of his writings, and alfo those of Erasmus, he was profefed to the profefient party. Of his conversion he gave evidence by marrying; and his wife was a converted nun, by whom he had 13 children. He settled at Strauburg, and ofliciated there both as minifter and theological profefor for 20 years; and to his labours the progres of the reformation in that city was much indebted. His talents and reputation caufed him to be employed in many conferences and negotiations; and in 1538 he was sent for to Augburg to fign the agreement between the papifs and profeflants, called the "Interim;" but his opposition to that project involved him in a variety of troubles. At this time he was invited to England by archbishop Cranmer, and appointed a profefor of theology in the university of Cambridge. King Edward VI. for whose use he compofed a book, entitled "Concerning the Kingdom of Chrift," manifefted great regard for him; and when he complained of the cold of this climate, prefented him with 100 crowns towards purchasing a German flame. He died of a complication of diforders in 1551, and was interred at Cambridge with diffinguifhed funeral honours. In the bigoted reign of queen Mary, his body was dug up and burnt, and his tomb demolished; but it was fet up again by order of queen Elizabeth. His erudition was various and extensive; of which he furnifhed ample evidence by his numerous writings, and by his learned lectures. His fyle, however, was obture, nor was it always easy to comprehend his meaning. He was moderate in his temper, and particularly licentious for preferring unity among the foreign churches. On occafion of the difcrences that took place between Luther and Zuinglius, and their respective followers, he inclined to the sentiments of the latter; but by his endeavours to reconcile them, he incurred reprofe from the zealots of both parties. His zeal for maintaining peace and concord betrayed him into an ambiguity of languages, and conciliatory artifices, which gave offence both to his friends and enemies. He fefons to have been inclined to allow the merit of good works, nor was he adverse to epifcopacy; and on both these accounts he was regarded with fome degree of fufpicion by Calvin and his followers. He was much oppofed by the papifh party at Cambridge; and as he did not profefs the talents of an acute and ready difputant, Peter Martyr advised him to avoid all public difputes. Gen. Dict. Mohlheim's Eccl. Hift. vol. iv.


BUCERAS. Haller. See Trigonella Fumum Grassum. BUCEROS, in Ornithology, the name of a genus in the order Pica, called in English hornbill. Birds of this kind have the bill convex, curved, sharp at the edge, of a large fize, and ferrated outwardly; a horne or fome what bony protuberance on the upper mandible, near the front of the head; noddles behind the base of the bill. Tongue acute and short. Feet grefiforial.

Of this genus there are twelve species, namely bicorius, abbyssinicus, africanus, malabaricus, hydorcorax, rhinoceros, galeatus, panayenis, mantinensis, nefitus, albus, and obscurus. Obs. the left is named plicatus by Latham, who also adds four new species to the bucus genus, giurginianis, orintalia, grifeus, and viridis.

BUCCHAN, William, in Biography, doctor in medicine, of a respectable family in Roxburghshire, was born at Aneram in the year 1729. Having paffed through the usual fchool education, he was fent to the university at Edinburgh. His inclination leading him to mathematics, he became fo considerate a proficient in that branch of science, as to be enabled to give private fefions to many of the pupils. Having made choice of medicine for his profeflion, he attended the lectures of the feveral profefors, neceffary to qualify him for practice; and as he continued in the university nine years, and was of a fubtile mind, his progres in knowledge may be fuppofed to have been equal to his application. He now removed to Sheffield in Yorkshire, where he commenced practitioner, in conjunction with another gentleman, whom he had invited him thither. Soon after he became a candidate, and succeeded in gaining the appointment of physician to the Foundling Hopital at Ackworth. From the opportunity he enjoyed here of feeing, and attending to the difeafes of children, he was probably induced to give for his inaugural theses, on his taking the degree of doctor in medicine, "De infantum vita conservanda." It was then much approved, and the fubfance of it now forms a fection in his "Domestic Medicine." He is fad from the regulations introduced by him for the management of the children in the hopital, to have considerably reduced the proportionate number of deaths of the children supported by that institution. This, however, did not prevent government from withdrawing their support to the hopital, which was in confequence given up, and the doctor, with his wife and fon, removed to Edinburgh, and continued to practice medicine there for feveral years, during which he employed his leisure hours in compofing his "Domestic Medicine," a work too well known to need being particularly decribed. It is written on the plan of Tiffot's "Avis aux Peuples," to which it is certainly not inferior. It has been faid, that by familiarizing the method of treating difeafes, as it is attempted to be done by works of this kind, the medical.
medical profession would be degraded, and the professors of the art would lose a portion of their respectability, and of their profits: but experience has shown that none of these events have followed; neither have we much reason for believing that the public are better judges of the merit of their medical advisers since the appearance of this popular work, which is one of the advantages we were taught to expect from it. If it has been profitable to any considerable degree, it may seem rather to have operated as a prophylactic, teaching the method of preventing diseases by regimen, than the art of discriminating them, or the mode of curing them when present. However that may be, since the year 1771, when the "Domestic Medicine" was first published, it has passed through nineteen editions, each of them, we are told, of 5000, or more copies. It has also been translated into all the modern languages, and procured for the author a gold medal, and a commendatory letter, more valuable than the medal, from the empress of Russia. On the death of the late Dr. Gregory, Dr. Buchanan offered himself as a candidate for the late professorship, but did not succeed. Mr. Ferguson, teacher of natural philosophy, dying soon after, he left the doctor his apparatus, with which, in conjunction with his son, he gave lectures at Edinburgh twice each season, for three years. In the mean while his fame being extended by the issue of his book, he was induced to come to London about the year 1778. He had now an opportunity of superintending the reprinting of his "Domestic Medicine," to which from time to time he made such alterations and additions as increasing experience had enabled him to collect, which entitled him to further remuneration from the bookellers. In 1786 he published "Cautions concerning Cold Bathing, and drinking Mineral Waters," 8vo. This was followed in 1796 by "Observations concerning the Prevention and Cure of the Venereal Disease." The next year he published "Observations concerning the Diet of the Common People." This has been incorporated with his Domestic Medicine. His last work published in 1803, is on "the offices and duties of a mother." He died on the 25th of February, 1803, of a dropsy in the chest, at the house of his son, in Percy street, and was buried in the churchyard of the west side of Westminster Abbey.

Buchan, in Geography, a district or territory on the east coast of Scotland, lying partly in the county of Aberdeen, and partly in that of Banff. The latter part extends northwards from the Ugie to the sea, and westward as far as Deveron, comprehending a tract of twenty miles in length by nine in breadth. The surface is mostly barren, though some parts of it are well cultivated. The coast is bold and rocky, and in some places presents almost perpendicular precipices. This district formerly belonged to the earl of Buchan; but upon the attainder of that family in 1320, Robert Bruce divided the lands among his friends; and though the title has been renewed in the present family of the Erkines, the present earl of Buchan poises but little property in the district. See Sir John Sinclair's Statistical Account of Scotland.

BUCHANAN, GEORGE, in Biography, a famous poet and historian, eminently distinguished among modern writers by the purity and elegance of his Latin style, was the descendant of an ancient family reduced to indigence, and born in the shire of Dumfriesshire, in Scotland, in 1506. The talents which he manifested in early life induced an uncle to send him to Paris for his education; but after pursuing his studies with singular industry, he definitely retired to Paris for his education; but after pursuing his studies with singular industry, for nearly two years, the death of his uncle and his own ill state of health obliged him to return home. Urged, perhaps, more by his necessities than by inclination, he enlisted as a common soldier in the body of French auxiliaries brought over to Scotland with John duke of Albany; but soon disgusted with their mode of life, he attended the lectures on logic delivered at St. Andrew's by John Major, and accompanied him to Paris. After struggling about two years with indigence and misfortune, he was appointed, in 1526, grammatical professor in the college of St. Barbé; and having remained in this situation three years, he obtained the patronage of Gilbert Kennedy, earl of Caffins, and was introduced into his family as private tutor and domestic companion. In this situation he continued five years; and availing himself of the intervals of leisure which he enjoyed, he translated Linsacre's rudiments of grammar into Latin, which was printed at Paris by Robert Stephens, in 1536. Two years after his return to Scotland his noble patron died; and he was appointed by king James V. preceptor to his natural son James, afterwards the famous regent, earl of Murray. About this time he incurred the reprobation of the Franciscan friars by a satirical poem, entitled "Somnium," but the clamour of these monks served only to increase his prejudice against them, and to strengthen his inclinations towards Lutheranism. As soon as the king discovered, in 1538, that they were forming a conspiracy against himself, he commanded Buchanan to write a poem against them. His first performance was less poetical than the king wished it to have been; and he was commanded a second time to write with greater severity. Accordingly he published his "Franciscanus;" written more in the style of Juvenal than of Horace, and abounding so much with invective and ridicule, that these monks became his irreconcilable enemies, and excited the general indignation of the clergy against him. The king himself was induced to withdraw his protection; so that Buchanan was tried for hereby, and in 1539 committed to prison. However, he soon found an opportunity of making his escape, and fled, first to England, and afterwards to France. But at Paris he dreaded the influence of his avowed enemy, cardinal Beaton, who happened to be then in the city, and he withdrew to Bourdeaux, whether he was invited by Andrew Goveanus, a learned Portuguese, who was principal of a new college in that city. Here he taught for three years in the public schools; and he also composed two tragedies, viz. "Baptistes, five Calumnia," said to have been translated by Milton, and published in 1641, and "Jephthes, five Votums," and translated the "Medea," and "Alcestis" of Euripides. During his residence at Bourdeaux the emperor Charles V. passed through the city, and was presented by Buchanan with an elegant Latin poem, which gave him great satisfaction. Cardinal Beaton made several attempts to render his situation uneasy to him, but they were counteracted by the interposition of his friends. However, in 1543, he left Bourdeaux on account of the pelléce, and for some time took part in the education of Michael de Montaigne, the celebrated author of the "Éffays." In the following year he went to Paris, and joined Turnebus and Muretus in conducting the education of the students in the college of Bourdon. In 1547, he accompanied Goveanus to the newly founded university at Coimbra; but the death of his friend, after a happy union of one year, subjected him to the enmity of the bigotted natives, who accused him of hereby, and confined him for a year and a half in the prison of the Inquisition, from whence he was afterwards removed to a monastery. In this situation he began his translation of "David's Psalms" into Latin verse, a work which has contributed in a high degree to his reputation as a poet. His translation of the 104th psalm has been particularly admired. In 1551, he was released, and the king, defirous of retaining him
him in the country, granted him a small pension. But having no strong inducements to prolong his stay in this country, he embarked for England; where, notwithstanding some advantageous offers were made to him, public affairs were in an unsettled state; and he thought it most advisable to remove to France, in 1553. Although he seems to have been fond of this country, he deplores in some of his elegies the miserable condition of those who were employed in the department of instruction at Paris. In 1555, he was entrusted by Marshal de Brifac, who then commanded in Piedmont, with the education of his son; and having continued in this station for five years, he devoted his intervals of leisure to the study of the sacred writings, and also to some poetical compositions, viz. his "Ode" upon the capture of Calais by the duke of Guise, his "Epithalamium," on the marriage of Mary queen of Scots to the dauphin of France, and part of his poem on the "Sphere." In 1560, he returned to Scotland, and avowed his conversion to Protestantism, which was then the established religion of the country. He was soon after appointed principal of St. Leonard's college in the university of St. Andrew's; where he also for some time taught philosophy; and at this period he made a collection of his Latin poems. Such was the respect entertained for his uncommon abilities and learning, that, in 1567, he was appointed, though a layman, moderator of the general assembly of the church of Scotland. When his former pupil, the earl of Murray, came into power, he formed an intimate connection with him and with the party, that was adverse to queen Mary. He accompanied this nobleman to York, and to Hampton court, where he acted as an advocate to the commissioners that were deputed from Scotland to conduct the accusations against the queen. Previous to this period he had been appointed by an assembly of the Scots nobility preceptor to the young king James VI. It was under his tuition, which continued for several years, that James acquired that scholastic knowledge, on which he so much prided himself; and it is said, that when Buchanan was afterwards reproached with having made his majesty a pedant, he replied, "that it was the best he could make of him." It is moreover reported, that Buchanan's reverence for his royal pupil did not prevent his giving him a severe whipping, when he perfided against reformation in disturbing him whilst he was reading. In 1571, Buchanan published his "Decticio Mariz Regine," arraigning the character and conduct of queen Mary, and expressly charging her with being concerned in the murder of her husband, lord Darnley; and of all our historians he alone avowedly accuses the queen of a criminal passion for David Rizzio. On this subject it will be sufficient to observe in this place, that admitting, with the most respectable and impartial judges, the general guilt of Mary, Buchanan divulges the question and forces the charge alleged against her with the vehemence and acrimony of a partisan. Such was the high estimation in which Buchanan was held, that after the assassination of his patron, the earl of Murray, in 1579, he continued in favour with those who possessed power in the country, and was appointed one of the lords of the council, and lord privy seal. He had also a pension of 100L a year settled on him by queen Elizabeth; which can hardly be considered as an adequate recompense for the services rendered by him, or suitable to the high offices which he fulfilled, and of which his tenure was precarious and of no long continuance. In 1579, he published his famous treatise "De Jure Regni apud Scotos," written in the form of a dialogue, and containing an explicit avowal of the right of subjects to decide upon and control the conduct of their rulers. This work, as we may naturally imagine, was highly extolled by some, and as violently cenüred and condemned by others. The author, however, ventured to dedicate it to his royal pupil, although the doctrine it contains was not very conformable to his views and inclinations. Whatever may be thought by contending parties of the principles which Buchanan has advanced in this publication, the avowal of them precludes the suspicion of his having been actuated by mercenary motives. During the last twelve or thirteen years of his life he was employed in composing his history of Scotland; and for the sake of obtaining greater leisure he retired from court and passed some of his last years at Stirling. This work, entitled "Rerum Scotiaearum Historia," and comprised in 20 books, was published at Edinburgh in 1582, not long before his death, which happened on the 5th of December in the same year. Towards the close of his life, his circumstances were much reduced; and it is said, that when he was dying, he ordered the small sum of money that remained, and which was insufficient for defraying the expenses of his funeral, to be given to the poor, expressing at the same time great indigence about the fate of his corpse. Accordingly, he was buried at the expense of the city of Edinburgh. The manner of his death has given occasion to his enemies for calumniating him as a libertin and an atheist; but for charges of this kind, chiefly added by bigotted Catholics, there is no just foundation. Sir James Melvil, differing with him in his political sentiments and connections, has nevertheless done him the justice to declare, that he died a sincere member of the reformed church. Against his moral character, it has been alleged, that he reduced himself by extravagance and debauchery to penury and indigence, at the close of his life; but to this charge it has been replied, that his intention to pecuniary matters, and the profusion of his charity, might account for his indigence, without ascribing it to culpable prodigality. His advocates, however, allow, that when he possessed wealth, he was, to an extreme degree, careless of the future, and that he made no provision for the season of dotage and helplessness. It has been further urged against him, that several of his poems indicate indiscretion and licentiousness; but his advocates have fought an apology for him from the age in which he lived, the taste of which was in this respect very different from that of a later period. The ancient satirist, says Mr. Hume, often used great liberties in their expressions; but their freedom no more resembles the licentiousness of Rochester, than the nakedness of an Indian does that of a common prostitute. With regard to his temper, Buchanan seems to have been lavish and unamiable; and, as a party-man, virulent and little inclined to indulge feruples. The persecutions of priests, and the oppression of misfortune, served to augment the natural fretfulness and asperity of his disposition, and gave an edge to his spleen. However, in his conduct he frequently exhibits a noble independence; and with respect to the public principles which he adopted, there is no reason to suspect in his avowal of them want of integrity; however he might have been influenced in some degree by partiality to his party, or deceived by the reports of others. The learned John Le Clerc has very ably shown (Bibliotheque Choix), that there is much reason to conclude, that many of the severe cenures which have been thrown out against Buchanan, were the result of ignorance, of prejudice, and of party animosity. Sir John Melvil, who was of the opposite party, allows, that as far as he was concerned in public affairs, he distinguished himself by his probity, and by his moderation. But whatever different opinions may have been entertained by persons of opposite parties concerning his disposition and moral character, all concur in applaud-
appraising him as a writer. "His poetical character," says a very competent judge, "ranks extremely high; yet his merit does not yield to such in splendour, sublimity, and beauty of the imagination, as in splendour of diction, and harmony and variety of verification."

It is supposed to derive its name from the city of Bukhara (which see) near the Jihon or ancient Oxus, which was the emperior of the commerce carried on by the Europeans in that quarter; and afterwards extended to the adjoining country, beyond it. Bukhur, or Bukhar, as Abulbazi Khan informs us, was a Mungl or Mogul word, importing a "learned man," and as all those who formerly wished to be instructed in the languages and sciences went, for that purpose, into Bukhara, the name was originally given to it by the Moguls, who conquered this country in the time of Genghis Khan. This extensive region is divided into two parts, called Great and Little Bukharia, corresponding to the southern divisions of the two ancient Scythias, which were separated by the ridge of mountains denominated the "Imans," and called by Shereefedin the "Karangoutac" mountains.

Bucharia, Great, is that extensive and important region of Independent Tartary, which comprehends part of the Touran or Turan of the ancient Persians, and was chiefly known to the Greeks and Romans by the names of Sogdiana and Bactriana; the former being the Arab "Maweralmah," or country beyond the river, i.e. the Jihon or Oxus, and corresponding to "Transoxana," the name anciently given to those provinces which lay beyond this river; while Bactriana corresponds with Balk, and accordingly belongs to Iran, and not to Touran. Major Remin cautions us against confounding, as some geographers have done, the modern Bucharia with the ancient Bactria. Bucharia, he says, is situated beyond the Oxus or Jihon, and is the country anciently named "Sogdiana," from "Sogd" the valley, a beautiful valley in which Samarcand (anciently Maracanda) is situated: whereas Bactria or Bactriana lay on the south of the Oxus, and comprehended the present provinces of Balk and Gaur, and probably part of Koraian.

Great Bucharia extends more than 700 British miles in length from north to south, by a mediaw breadth, if Fergana be included, of about 350; thus rather exceeding Great Britain in size, but much inferior to the country named Little Bucharia. On the north it is bounded by the mountains of Argun and Kara Tag; on the west by a defert, the river Amu, and other deferts, which divide it from Khurman and Khorasan; and on the south, if it be extended fo as to include Balk, by the mountains of Gaur or Paspamifus, and the Hindoo Koh; and on the east by the chain of Belur. According to these boundaries, it is situated between about 35° and 42° N. lat. and between about 60° and 70° E. long. The original population of this country was Scythian; and the natives are still denominated by the same Tartaric name of "Tadjiks," which the barbarous victors affigned to the Persians. The Persian monarchs were often engaged in wars with those of Touran, or the Scythians on this side and beyond the Imans, whose queen, Thomyris, is said to have slain Cyrus in battle. After the progres of Alexander as far as Cogend on the river Sihon (or ancient Jaxartes), this country became better known, being probably the utmost limit of his course towards the north. When Genghis Khan died, A. D. 1227, he bequeathed Great Bucharia to his second son Jagatay Khan, and it took the name of Jaghatay or Zagatay in honour of its new proprietor; which name it retained as long as the Khans descended from him reigned in these parts. But in 1408, Sultan Babur, a descendant of Timur, was expelled with his Mongols from Great Bucharia; and the Tartarian victors, called Ulbucks, established a powerful monarchy in the country. Successive Khans held the sceptre from 1458 to 1658; and soon after this period the
the extensive and fertile country of Bucharia seems to have been divided into several governments, under numerous Khans. All the great towns, both of Great and Little Bucharia, from the borders of Kharafan as far as China, are inhabited by the Bukhars, or descendants of the ancient pothis, called by the Tartars, Tadjiks. These are well made and very fair, allowance being made for the climate; they have generally large, black, and lively eyes; their countenances are open, their noses aquiline, their hair black, and their beards bushy. The women are generally tall, and well-shaped, with fine complexions, and very beautiful features. Both men and women wear calico flirts and drawers; over which the men wear a veil of quilted silk, or calico, reaching to the mid-leg, and tied about the middle with a silk-cape girdle or sash. In winter they are covered with a long cloth gown, faced and lined with fur. The head is covered with a round cloth bonnet, having a large fur border; and some wear turbans. Their boots resemble the Persian buskins, and they polish a singular art of preparing horse-hides for this use. The women wear long gowns that are full and loose; their hair hangs in tresses, and is adorned with pearls and other jewels. Their bonnets are small, flat, and coloured. The Bucharians are a commercial people; and their caravans travel through the whole continent of Asia, and traffic with Russia, Thibet, China, India, and Persia. Russia contains several colonies of Bucharians, who are settled in many large towns of the southern provinces, and maintain a constant communication with the merchants of their own country. Their principal marts are Tomik, Kindea, and Orenburg, which is the most considerable. Their caravans are exposed to pillage by the Kirguf Tartars, through whole country they are obliged to pass. Their exports are gold and silver, chiefly in Persian coins and Indian rubies, gold-dust found in the sand of the rivers of Bucharia, precious stones, particularly rubies, lapis lazuli, spun and raw cotton, cotton Fluxes in great abundance, both Indian and Bucharian, half-silk, unpreparted lute, native sal-ammoniac, lamb-skins, raw silk in small quantities, rhubarb, and large droves of sheep and horses, which are bought for sale by the Kirgufute Tartars. Pallas says, that above 60,000 sheep and 10,000 horses are yearly sold at Orenburg. The Bucharians receive in return cloth, leather, beads, and trinkets, hardware, indigo, cochineal, &c. The Bucharians never bear arms; but on this account they are despised by the Tartars, as a cowardly and weak people. The Jagatay Tartars, who are the descendants of the Tartars who first possessed this region, are now comformed under the general name of Usbecks. The Usbecks are commonly reputed the most civilized of all the Mohammedan Tartars, although, like the rest, they are great robbers. Both men and women are clothed, like the Persians, as low as their boots; and the chiefs wear plumes of white hoar feathers on their turbans. Their most delicious dishes consist of "pillow," which is rice dressed in broth, and horeh-flesh. Their common drink is kumufs and arak, both made of mare's milk. Their language is a mixture of the Turkish, Persian, and Mongolian tongues. Their arms consist of the sabre, darte, lance, and bow, of a larger size than ordinary, which they manage with much strength and dexterity. For some time past they have used muskets. When they go to war, many of their cavalry wear coats of mail, and a little buckler for defence. They value themselves on being the most robust and valiant of all the Tartars; and even their women, who surpass the other Tartars in beauty, are not averse from warfare, but will sometimes attend their husbands to the field. Although many of these inhabitants of Bucharia reside in huts in the summer; yet in winter they inhabit the towns and villages. The religion of the Usbecks and Bucharians is the Mahometan of the Sunni sect; and the government of the Khans is despotic. The amount of their population is not precisely ascertained; but it is probable that upon an emergency an army of 100,000 men might be mustered. We have no accurate statement of the revenue of these fertile provinces; but it is not improbable that the revenue of Great Bucharia is at least equal to that of Kharafan, which, by Mr. Hanway's account, is equal to half a million sterling annually. The climate in general appears to be excellent; the heat even of the southern provinces being tempered by the high mountains capped with perpetual snow; and the proximity of the Siberian deserts and the lofty Alps, renders the air much more temperate than that of other countries, such as Spain, Greece, and Atlantic Turkey in the same parallel. The face of the country presents a great variety; but though there are numerous rivers, hills, and mountains, there seems to be a deficiency of wood. Near the rivers the soil is productive, so that the grain sometimes exceeds a man's height; and in some parts considerable industry is shewn in the cultivation of rice and other grain. In the lands of any other persons belonging to these of the Tartars, this country might rival any European region. There is not a more flourishing or more delightful country, says a famous Arabian geographer, than this, especially the district of Bokhara. From the ancient caille of this city a scene of luxuriant and beautiful verdure presents itself on every side of the country; so that the spectator would imagine the green of the earth and the azure of the heavens were united; and as there are green fields in every quarter, so there are villas interspersed among the green fields. In all Kharafan and Mavara, there are not many people more long-lived than those of Bokhara. The rivers and lakes of this country are numerous and considerable in size; and its mountains are lofty and extensive. For the principal rivers, see Ando, Sodg, Morgan, Kisile-Daria, Dehsh, &c.; and for the principal range of mountains, see Belur.

The cities in Great Bucharia generally give name to the provinces, or receive their appellation from them. In the north is the province of Fergana, the capital of which is Andegun. The other chief provinces are the western part of Shahi, and a district called by M. d'Anville Osfoutine, from a town of the same name, and by Ebn Haukal, Secruni. The most fertile province is Sodg; and next to this are Vah, Kotlan, and Khan. The Alpine region that separates this country from Little Bucharia, is Belur; and the most southern provinces are Tokarefann and Gaur. The chief city of Great Bucharia is Samarcand, and vying with this for dignity is Bokhara. See each of these articles respectively, Seculo, Park, Zoro, Bokarsham, Terval, &c.

Bucharia, Little, is so called, not because it is more limited in extent than Great Bucharia, being in reality much larger; but because it is inferior to it as to the number and importance of its cities, the quality of its soil, and the amount of its population. This country corresponds to the "Scythia extra Imaum" of the ancients, and to the "Serica" of Ptolemy. The Scythians beyond the Imaus are described by this geographer as retir'd to a confined strip of territory on the eastern side of the Imaus, and divided by an imaginary line from the Seres, who were undoubtedly the people of Little Bucharia. But as ancient knowledge here terminated, it is probable that the Scythians beyond the Imaus not only held the eastern ridges of these mountains, as a barbarous race continues to do without moulding the industry of the dilute plains, but that they were diffus'd along the ridge of 3 M 2 Alak,
Alak, and the wide region called Gete, extending as far as the mountains of Bogdo, till they were expelled or subdued by more numerous or powerful nations from the cast. But as it is now allowed by all geographers that the range called Belar Tag represents the Imaus, and that this range runs from north to south, forming the eastern boundary of Great Bucharas, it will be evident from Ptolemy's description and maps that "Serica" can be no other country but Little Bucharas, always polli
ded by an intelligent and industrious race of men; not only the ridge of Imaus, but the remarkable course of two considerable rivers towards the north-east, while all his other Atlan
cic streams have very different directions, sufficiently indicate Little Bucharas, in which the rivers correspond with Ptolemy's delineation; the Oechardes being probably the Orankaf of modern maps, or perhaps the river of Yarcand; while his Bautitis may be the river of Koten, or that of Karia. The know-
ledge of Ptolemy does not appear to have extended easterward further than 80° from Greenwich; and, therefore, few compari
ons can be instituted between the modern names and situations and those of Ptolemy. M. D'Anville supposes that the mountains of Annabi are those of Altaï; whereas they are those of Alak, called by some Mutafar, on the north of Little Bucharas. The mountains on the south correpond with those of Mus Tag, or the mountains of Ice on the north of Thibet. To the south also lies the sandy desert of Cobi, of unascertain'd extent, but suppos'd by some to reach westward as far as the northern snowy mountains of Thibet already mentioned. The southern part of Little Bucharas contains several large provinces, as Koten and Karia or Kereja, so called from their capital cities; and the intelligent Strahlenberg has denominated Koten a kingdom, and has inflected several names of rivers and towns. On the east Little Bucharas is bounded by deserts and provinces of Mongolia, and particularly by the province of Hami or Chamiel belonging to China. The western and northern parts of this country are more accur
ately known by means of various accounts, and by the maps of D'Anville and Iflinieff. To the north is the Alak mountain, and beyond it Soongaria, and in the west the Belar Tag, which separates it from Great Bucharas. In Rennell's map, however, the western boundary is that ridge of the ancient Imaus, denominated by Sirefeddin the Karangoutac mountains, and between this and the Belar ridge is Baltit or Little Thibet. The chief rivers of Little Bucharas are the Bulanghir, probably the Polonik of the Jefuitic maps, flowing into the lake Locknor, the Chaidu and Yareca Darja sluing from it, and supplying several branches as the Koten, Oraksha, &c., and the Kereja proceeding from a lake in the defect of Sultus. The principal towns are Cafghar, Yarcand, Alku, Chialif, Turfan, Koten, and Karia, which ice respectively. Independently of the regions to the north, the extent of Little Bucharas, from the confines of Hami to the mountains of Belur, is more than 1000 British miles; and the breadth, from the mountains of Thibet to those of Alak, more than 500. It is of course comprehended between 36° and 43° N. lat., and about 72° and 83° E. long. As the land is much elevated and abounding in mountains, the climate is cold; and, in contradiction to the usual course of nature, the southern part bordering on the Alps of Thibet is colder than the northern, which is protected by the lower ridge of Alak. Among its hills are several fertile plains; but the population is not extensive. Between the cities in this country there are no villages; and in travelling a whole day from one to another, there is not a house of entertainment to be found. From Du Halde's atlas it may be deduced that the Contaish, or Great Khan, could raise 20,000 men from this province, taking one man from 10 families; and hence the number of families would be 200,000, which would yield a population of one million. The in
habitants, who are for the most part descendants of Bu
charians, with a great mixture of Tartars or Turchomans, and a few Kalmuks, are generally swarthy and black-haired, although some of them are very fair, handsome, and well made. They are said to be polite and benevolent; and their language is probably that called the Zagathan or Turkifh, which has supplanted their native tongue. The drefs of the men resembles that of the Tartars, reaching no lower than the calf of the leg, and bound with girdles like those of the Poles. The garments of the females are of the same kind, commonly quilted with cotton; and they wear long ear-rings, twist their hair in tresses, lengthened by decorated ribbands and tussels of silk and silver, so as to hang down to their heels. Their necklaces are ornamented with pearls, small pieces of coin, and several gilded or silvered baubles. Some of them tinge their nails with henna. Perfumes of both sexes wear trowsers, with light boots of Ruffia leather, and occasionally high-heeled slippers. The head-
dress resembles that of the Turks. Married women are
distinguifhed from those that are single by a long piece of linen worn under their bonnets, which is folded round the neck and tied in a knot behind, so that one end of it hangs down to the waist. Both sexes carry about them prayers written by their priests, and kept in a small purse, under the form of relics. Their houses are commonly of stone, well built, and decorated with some articles of china. When they go to sleep, they throw off every garment; they are cleanly in the preparation and use of their food, which is usually minced-meat, and their general drink is tea, which they prepare with milk, salt, and butter. At their meals they use neither chairs nor tables, knives nor forks, but fit croffed-legged on the ground, and when the meat is served up ready cut, they take it up with their fingers or wooden ladles. Their wives are purchased, so that a perfon who has many daughters is accounted rich. The ceremonies of marriage differ little from those of other Mahometans, and polygamy, though regarded among the Bucharans as a kind of fin, is generally practiced. Their children are named on the third day after birth, and circumscribed on the 7th, 8th, or 9th day. In sickness the mullah or priest has great influence; and when a perfon dies, he lays a koran on his breath, and recites some prayers, after which the body is interred in some pleafant wood and inclofed with a hedge or pallifade. Their money con
fists of copper kopeks, weighing nearly one-third of an ounce; and in pfaffing silver or gold, they weigh it, like the Chinefe. The prevailing religion is the Mahometan; and the Kal
mucks or Eluths allow unlimited toleration. The govern
ment, before the Chinefe took possession of the country, was fift of all administered by a Khan, and afterwards by the contaish of the Kalmuks, who appointed inferior mag
istrates. The foil of Bucharas is in many parts of it fertile and productive, and yields various kinds of fruits, and particularly wine. It is also rich in mines of gold and silver, but neither the natives nor Kalmuks are sufficiently skilful to work them; and out of the torrents, which flow from the mountains when the snow melts, they collect gold-duff, which they carry to India, China, and Siberia. Precious fiones and diamonds are also found in this country, and the southern mountains near Thibet furnish mafs. As the drefs is chiefly cotton, the plantprobably abounds in this coun
try; though from their proximity to China the Seres might easily have transmitted flk to ancient Europe. Pallas speaking
speaking of Bucharia, but probably meaning Great Bucharia, mentions raw silk as a product of the country, very fine lamb-skins, the hair of camels, and an excellent rhubarb, which latter article grows in the south-east part of Little Bucharia.

In more ancient times, Little Bucharia, as we have already observed, was the country of the Seres; but it seems to have been but little known before the time of Genghis Khan, upon whose death this country, as well as Great Bucharia, became the portion of his son Jagatay, or Zagathai, and was occasionally called by his name, but more generally known by the appellation of Cashgar. It was then considered as a part of Mogolistan, or Mongolia; and the northern provinces belonged to the country of Gete. It had a succession of Khans, separate from Great Bucharia, till about the beginning of the 14th century. From that time it seems to have been governed by a succession of the descendants of Timur, till the year 1083, when it was subdued by the Eluths, or Kalmuks. To them it remained subject, till at a recent period it was conquered by the Chinese. In 1759, Kiang Long, or Chin Lung, completely vanquished these people; and thus annexed an extensive territory to his dominions.

BUCHAU, a free imperial town of Germany, in the circle of Swabia, seated on the Feder lake; 24 miles S.W. of Ulm. N. lat. 48° 6'. E. long. 9° 37'.

BUCHAU, a small country of Germany, in the circle of the Upper Rhine, comprehending the estate of the abbey of Fulda, of which Fulda is the capital.

BUCHEN, a small town of Germany, in the circle of the Lower Rhine, and electorate of Mentz; 22 miles E. of Heidelberg.

BUCHENBERG, a town of Germany, in the circle of Swabia, and territory of the abbey of Kempten; 5 miles W.S.W. of Kempten.

BUCHERI, a town of Italy, in the valley of Noto; 3 miles N.E. of Monte-Rosso.

BUCHHOLZ, a small town of Germany, in the circle of Upper Saxony, and Middle Mark of Brandenburg; 23 miles S.S.E. of Berlin.—Also, a small mine-town of Germany, in the circle of Erzgebirg, having a seat and voice at the Land-diets. At this place considerable quantities of lace are made.

BUCHIGLIERA, a town of Naples, in the province of Calabria, Castor; 11 miles W.N.W. of Umbriciato.

BUCHLOE, or BUCHLAKE, a town of Germany, in the circle of Swabia, and bishopric of Augsburg; 18 miles S.S.W. of Augsburg.

BUCHNER, ANDREW ELIAS, in Biography, physician and aulic counsellor to the king of Prussia, and professor of medicine, first at Erfurt, and afterwards at Hall in Saxony, published, in 1755, in 4to; "Historia Academica naturae curiosorum," of which he was several years president; "Fundamenta materie medica, simplicium historiae, vires et preparata exhibentia," Hall, 1754, 8vo; "Syllabus materie medica felicissimi, cum designatione ponderis, &c." Hall, 1755, 8vo. He was also author of several ingenious disquisitions published in the Miscell. Nat. Curios. and of a number of disquisitions, or inaugural theses, on botanical subjects. Among these, he particularly notices the "Dipintatio de genuinis viribus Tabaci, ex ejus principiis connotativis demonstratis; et de genuinis Opii effectibus in Corpore Humano;" each of them containing several ingenious experiments made on animals, with the view of ascertaining the properties of those drugs; also a method of instructing deaf persons. He died in the year 1769. Hall. Bib. Bot.

BUCHNER, J. GOTTFRIED, of whom we have no biogra-
gradually enlarges into a large, flat header, with five rounded lobes. Off. The younger leaves, not having left the flower, are not certain of the genus, especially as it has some resemblance to the geranid. and, like them, become entirely black in drying. Native of South America. Mutis. 7. B. argyrophyta. Linn. Mont. "Leaves three-toothed; flowers peduncled; stem rather shrubby." Stem half a foot high, much of the leaves opposite, stalked, less toothed, flowers on each side near the top. Flowers toward the base of the branches, large, opposite; peduncles one flowered, longer than the leaves, on a Cal. monopodium, five-toothed, a little hispid. Corolla yellow, twice as long as the tube of the calyx. Capsule biocular, ovate-oblong, febrile longer than the calyx. S. B. viscosa. Hort. Kew. "Leaves linear lanceolate, dilantly toothed, a little glabrous; flowers peduncled; stem shrubby." Native of the Cape of Good Hope. Found by Maffon, and introduced into England 1754. B. tappafla. Linn. Mont. "Leaves toothed. Linear, alternate; calyx pustuliferous." Stem annual, about one inch high, straight, with four or five simple branches near the top. Leaves generally alternate. Flowers sessile, in short, terminal spikes. Calyx a little inflated. Coroll yellow; tube slender, slightly villos; two of the petals projecting a little beyond the throat of the corolla. Stem, branches, leaves and calyces clothed with a somewhat villos. La Marek, from a dried specimen. Allied to rhinanthus cyprias. Linn. Native of the Cape. 10. B. asiatica. Linn. Spic. Plant. "Leaves very entire, linear, calyx scabrous." Stem obtusely four-cornered; branches alternate, with the habit of an euphorbia. Leaves linear; upper ones alternate, lower opposite. Tube of the corolla filiform, including the petals; border two-segmented, one segment nearly upright and triad, the other open and heart-shaped. Val. (Sym. 5, p. 81.) describes the leaves as covered on the upper surface, and at the rib and margin of the lower, with numerous white scales, producing very small, solitary hairs; and the calyxes are solitary, nearly sessile, flattened; the skirts toothed with numerous minute, rigid hairs. La Marek has, in his herbarium, a plant resembling euphorbia Index Orientalis of Plunkenet, and which he presumes is buchnera asiatica. It is rough to the touch; and the calyx is a whitish, remembrance. Native of Ceylon and China. 11. B. euphorbiifolium. Willd. "Leaves linear, very entire, febrile with hairs; segments of the corolla linear, obtuse." Val. Refermiles euphorbia longiflora. Stem acutely four-cornered, branched; branches opposite, higher than the stem, profusely covered to the leaf, and almost imbricated. Leaves short, opposite and remote below, alternate and crowded above. Calyx febrile, axillary, about the length of the leaves. Tube of the corolla villous; segments linear. Val. Native of the East Indies. 12. B. geoffrionii. Willd. "Leaves oblong, dilated, prefixed close to the stem, squamiform; tube of the corolla curved." Stem half a foot high, branched at the base, at first light appearing naked. Leaves very minute. Flowers sessile, axillary, longer than the leaf, furnished on each side with a linear, obtuse bracteae, ciliated at the margin. Calyx five-cleft; segments lanceolate, ciliated. Corolla nearly at euphorbia longiflora; tube smooth; segments of the border oblong. Calyx oblong, obtuse, bilocular. Willdenow, from a dried specimen. Native of the East Indies. 13. B. pinata. Linn. Suppl. "Leaves linear, flat, smooth." Found at the cape of Good Hope by Thumberg. Off. La Marek is inclined to think that buchnera manilensis, and erinus, are properly only one genus. They differ from lekenanthera and felago in having a two-celled, polyporous capsule.

**BUCHNIAE brumifolia (Forskall). See Brownallia, where, on Forskal's authority, it is placed by La Marek, and said to have a one-celled capsule; but Val. on the other hand, ascribes to it a bilocular capsule with a portion opposite to the valves, very like that of buchnera brachyphylia, from which plant, he says, it differs only in its prostate stem and oblong leaves. It does not appear, that either La Marek or Wildenow had seen a specimen.**

**BUCHOLDZ, Peter Joseph, in Biography, a physician, who rose by his merit to the first rank, in eminence, in his profession, was born at Mutza, about the year 1756. After receiving a liberal classical education, in which he is said to have made a more than ordinary proficiency, he was sent to Pont-Mousson, and was admitted to the degree of doctor in medicine at the university there, in 1759. Being from distinguished for superior abilities and industry, he was in succession made physician at Stahl's, king of Poland, to the duke of Lorraine, & c. and teacher or demonstrator in botany to the Royal College of Physicians at Nancy. He was also associated as a foreign member to most of the medical and philosophical academies on the continent, to which he from time to time communicated his observations. His works are numerous, all on botanical subjects. The titles of a few of them follow: "Discours sur la Botanique," Paris, 1763. "Traité historique des Plantes qui croissent dans la Lorraine, et les trois échets," Nancy, 1758. From 1763 to 1759, 9 vols. The work was abruptly broken off incomplete. He was afflicted in forming it, by the papers and the Hortus Sicus of his father-in-law, Marquet, to which he made large additions. The first volume contains disquisitions on botany, with explications of the systems of Theophrastos and of Linnaeus; the second, purging; the third, pectoral; the fourth, inflammatory; the fifth, emmenagogue; the sixth, plants exciting perspiration. In each volume are engravings of the most remarkable plants in each class, with occasional experiments to ascertain their properties. "Medicine rurale et pratique," Paris, 1768, 12mo, containing useful information, and enabling the poor to select proper remedies for their complaints. "Secrets de la Nature et de l'Art pour les Alimens, la Medicine, la Veterinaire, avec un Tractat sur les Plantes qui peuvent servir a la Teinture, & c." Paris, 1769, 12mo. 4 vols. "Dictionnaire raisonné des Plantes et des Arbustes de France," Paris, 1770, 4 tomo. For the titles of the remainder of his works, see Haller. Bib. Botan.

**BUCHOLTZ, in Geography, a town of Germany, in the circle of Welfphalia, and county of Verden: 18 miles ENE. of Verden.**

**BUCHOREST. See Bucharest.**

**BUCHORN, an imperial town of Germany, in the circle of Swabia, seated on the north side of the lake of Constance. The inhabitants are Lutherans. Here are warehouses for goods destined to it for the passage of the lake. It is distant 13 miles from Constance, N. lat. 47° 41'. E. long. 9° 20'.**

**BUCHOV, a town of Hungary; 2 miles W. of Bobloa.**

**BUCHOW. See Buc.**

**BUCHWALD, Balthazar, John, in Biography, a German physician, published, in 1720, "Specimen Medicinae Practicae Botanici," 4to Hafniæ, containing the descriptions and accounts of the medical properties of many of the common plants, with dried specimens of the plants affixed to the leaves. De Diabeticis Curents, præsimus per Rharbarbarum, 4to 1737," also "Vifici Analytis, ejusque in diversis Morbibus Usus, 4to 1753." Haller. Bib. Botan.**
BUCHY, in Geography, a town of France, in the department of the Lower Seine, and chief place of a canton, in the district of Rouen, 47 leagues N.E. of it. The town contains 67,3 and the canton 9060 inhabitants; the territory comprehends 1624 square kilometres and 30 communes.


Gen. char. Cal. Perianth one-leaved, pitcher-shaped, obfoletely five-toothed, superior, permanent. Cor. none. Stam. filaments ten, capillary, longer than the calyx and inserted in its base. Author upright, heart-shaped. Pif. germ inferior, ovate; style the length of the flaments: stigma obtuse. Peric. berry dry, ovate, one celled, crowned with the calyx. Seed one, ovate.

Efflent. char. Cal. fine toothed, superior. Cor. berry one-seeded.

Spec. 1. B. Buciceras. Olive bark tree. Linn. Brown Jam. t. 23. f. 1. Sloane Jam. t. 189. f. 3. La Marek, pl. 356. "Spic. elongate; leaves wedge-shaped, smooth." Vahl. Stem. a tree, thirty feet high, about one in diameter. Branches dis- vicate, or flexuose, roundish, smooth, and even. Leaves only at the disvocations and summits of the branches, crowded together, petioled, obovate or ridge-shaped, obtuse, very entire, veined, smooth, near two inches long. Spikes, or rather spike-like racemes numerous, simple, peduncled, axillary near the ends of the branches, about the length of the leaves. Flowers small, yellowish, alternate, sessile, hoary, without tomento within. The style or upper part of the germ, especially at the extremity of the racem is sometimes extended to the length of an inch or more, and curved somewhat in the form of a bull's horn; whence Linnaeus and other authors have observed its affinity to rhizophora. Described by La Marek from a dried specimen. A native of the West-Indies and South America. In Jamaica it is called black olive; in Antigua, French oak; and in the French island, Guignon. Its bark is used for tanning leather; and its wood is excellent for coffers of drawers and other kinds of cabinet-makers' work, as it is seldom attacked by worms. 2. B. capitata. Willd. "Flowers with capitate spikes; leaves ridge-shaped, ciliated." Vahl.

BUCEO, in Geography, a town of Naples; 6 miles W.N.W. of Cagnano.

BUCEO, in Commerce, a sort of woolen cloth manufactured at Provence in France, which the French ships carry to Alexandria and Cairo.

BUCK, in Zoology, a male horned beast of venery or chase, whose female is denominated a doe. A buck the first year is called a fawn, the second a pisket, the third a forel, the fourth a fore, the fifth a buck of the first head, and the sixth a great buck. See Deer and Hunting.

Buck is also applied to the males of the hare and rabbit kind. Hares commonly go to buck in January, February, and March, and sometimes all the warm months; sometimes they seek the buck seven or eight miles from the place where they live. The buck rabbit is said to kill all the young hare he can come at; on which account the doe is careful to hide her offspring in some remote corner, out of his way. The doe coney goes to buck as soon as she has kindled. She cannotuck her young till she has been with the buck. When he has bucked, he usually falls backward, and lies as in a trance half dead, at which time he is called taken.
BUCKHAVEN, in Geography, a village on the coast of Fifeshire, in the parish of Wemyis, in Scotland. This place is wholly inhabited by persons engaged in the fisheries, as this part of the coast is much frequented by haddocks. About 50 years back these fish were caught here in such abundance, that they were sold at the rates of sixpence and ten-pence per hundred. The first inhabitants of this place are said to have been some Dutch fishermen, whose vessel was stranded here in the reign of Philip II. In the year 1791, the village contained 691 inhabitants. Sinclair's Statistical Account of Scotland.

BUCKLEY, a considerable fishing village in the parish of Rathven, county of Banff, Scotland. Here is a tolerable harbour, to which belong 6 flocks, 14 boats, and 1 yawl. It is situated at the mouth of a river of the same name, and contained, in 1791, 731 inhabitants. The property of the place belongs about equally to the duke of Gordon and the honourable baron Gordon. Sinclair's Statistical Account of Scotland.

BUCKING, among Miners. See Ore.

BUCKING, an operation performed on linen cloth, cotton, and yarn, to render them somewhat white, by working them with lime made of ashes. Bucking of cloth is the first step or degree of whitening it. See BLEACHING.

To drive a buck of yarn, they first cover the bottom of the bucking-tub with fine ashes of the ash-tree, then spread the yarn thereon, then cover it again with ashes, and thus stratum super stratum, till the yarn is all in; when they cover the whole with a bucking-cloth, and lay on it more ashes, and pour in warm water, till the tub be full, and let it stand all night. Next morning they let the yee run into another vessel, and as it waits, fill up the tub with warm water from a kettle, and, as this waffes, fill it up with the yee that runs from the bucking tub, still observing to make the yee hotter and hotter, till it boils. Thus are both the tub and kettle to be supplied for at least four hours, which is called driving a buck of yarn.

BUCKINGHAM, in Geography, the county town of Buckinghamshire, England, appears to be a place of considerable antiquity, and has been the scene of some particular historical events. According to bishop Kemest, it was at or near this town that the Roman general, Aulus Plautius, surprized and routed the Britons, under the command of Caractacus and Togodumnus, the sons of Cunobeline. In the early Saxon times, it became celebrated as the burial-place of the infant saint Rombald, who was born at King's Sutton in Northamptonshire, and is reported, by catholic fabulists, to have lived but three days, during which period he professed himself a Chrlitian, and wrought many miracles. According to the Saxon Chronicle, Edward the Elder resided here in the year 918, and built two forts to repel the incursions of the Danes. The town was ravaged by the Danes in 941, and again in 1010, when, having plundered the adjacent country, they retreated hither to secure their spoils. At the time of the Norman conquest, Buckingham was flated to be the only borough in the county; yet it was then but an inconsiderable place. In the reign of Edward II. its importance was increased by that monarch making it a mart for wool; but the trade being removed to Calais, it again declined; and in the 27th of Henry VIII. Buckingham was in the list of decayed cities and towns, which were relieved by act of parliament. The removal of the affizes to Aylesbury still left the confecution of Buckingham; and in 1724, a dreadful fire completed its misfortunes, when, out of 387 houses, 138 were consumed, besides outhouses and manufactories. The damage was estimated at 40,000L. Since that period the trade has in a small degree revived, part of the county busineses being restored, and the affizes fixed here by act of parliament in 1758, in which year a gaol was erected. The town-hall is a large brick building, surmounted by a gilt swan, the arms of the borough. But the most conspicuous and principal ornament of the town is the church, which stands on the summit of an artificial mount, which was anciently occupied by a caile. This lately fabric was begun in 1777, and completed in 4 years, at the expense of about 7000L.; the greater part of which was contributed by the late earl of Buckingham. The church is built of stone, and has a handsome square tower attached to its west end, ornamented with pinnacles, embasures, and a light tapering spire, which rises to the height of 150 feet from the ground. The interior is constructed on the same plan as Portland chapel in London. A large gallery, supported by Doric columns, projects from three of its sides. From the gallery rise twelve more columns of the Ionic order, sustaining a richly decorated ceiling. The corporation consists of a bailiff and twelve burgesses, in whom is vested the right of election for members of parliament. It does not appear that this town sent members previous to 36 Hen. VIII. through three persons were sent, as early as 11 Edward III. to a council of trade held by that monarch at Wellmynster. A free-school was founded here, about 1540, by Isabel Denton: the endowment of which has been increased by successive donations; and a Sunday school has been lately established for the children of the poor. The extent of the town and parish is computed at 3800 acres. The houses, which are chiefly brick, and irregularly built, are estimated at 545, and the inhabitants at 2605, who are divided into several religious sects; the presbyterians, quakers, and methodists have each a place of worship. Lace-making is carried on to a considerable extent; for as it requires but little ingenuity, and cheap materials, there is scarcely a female who is not provided with a lace-pillow and its necessary implements. The profits of the busineses depend on the facility of execution; and the daily earnings are therefore different. Some women can gain from eighteen-pence to two shillings a day; but others not more than one shilling. Their receipts have lately experienced a considerable drawback, from the establishment of a manufactory at Nottingham, where lace is made by machinery, and being quicker executed, is retailed at a lower price; but its quality is not so good as that made by hand. Buckingham is situated 57 miles N. W. from London. It has a market on Saturdays, and seven annual fairs. About two miles north of Buckingham are the magnificent manor and celebrated gardens of Stowe, the chief ornamental of the county, and principal seat of George Grenville Nugent Temple, marquis of Buckingham. Domelady day book contains the earliest account of this manor, and states, that in the reign of Edward the Condefor its value was 60s. and that it was held by Robert d'Ooly and Roger Ivery of the bishop of Bayeux. The present manor is a large handsome structure, seated on a high spot of ground, which slopes, in a southerly direction, to a fine lake of water. The interior of this house is furnished in the most elegant style, and contains a large collection of pictures, and a very spacious library filled with choice books, numerous manuscripts, &c. The pleasure grounds, which consist of about 400 acres, are ornamented with numerous plantations, temples, &c. and are diversified with various inequalities of ground. Beauties of England and Wales, vol. 1. "A Description of the House and Gardens at Stowe," 8vo. 1797.
Buckingham, a county of America, in the state of Virginia, lying between the Blue ridge and the Tide waters, containing, according to the census of 1790, 9779 inhabitants, of whom 4168 are slaves.

Buckingham House, the most westerly of the settlements belonging to the Hudfon bay company in New South Wales, lies north-westerly from Hudfon-house, on the northern side of Saftafawnen river, near its source. N. lat. 54°. W. long. 110° 20'.

Buckinghamshire, one of the inland counties of England, appears to have been mostly peopled, at the time of the Roman invasion, by a class of the Britons, which the historians of that period named Cattieuchani. When the Romans had subjugated the island, this part of it was included in that division named Flavia Caesariensa. After their departure, it became the theatre of many battles and revolutions, and, at length, in the Saxon dynasty, constituted a part of Mercia, to whose monarchs it became subject during the continuance of that kingdom. Buckinghamshire is bounded on the north by Northamptonshire; on the east by the counties of Bedford, Hertford, and Middlesex; on the south by Berkshire; and on the west by Oxfordshire.

Its extent has been variously estimated; but the most correct computation has been given in the General View of its Agriculture; wherein it is said to be 45 miles in length, 18 in breadth, and 138 in circumference. It contains about 518,400 acres of land, and is divided into 8 hundreds, including 16 market-towns, 185 parishes, about 21,000 houses, and about 107,440 inhabitants. Its limits are mostly artificial; the river Coln bounding only a small portion on the east side, and the Thames separating it from Berkshire.

The face of this country is much varied. The southern parts are occupied by the Chiltern hills and their appendages. These eminences are chiefly composed of chalk intermixed with flints; and though very inferior to the northern district, with respect to richness of soil, have been rendered extremely productive from the great attention given to the cultivation and improvement of the land. The prolific Vale of Aylesbury spreads through the middle of the country, and furnishes a rich pastureage to vast numbers of cattle, its astonishing fertility being chiefly employed in the support of the dairy and grazing systems. The more northern parts are diversified with gentle sand-hills, which enter from Bedfordshire. In the vicinity of the Chiltern hills, where the soil is light, and inferior to production without much labour, the most fertile land is the level, and every mode of improvement adopted. In the vale of Aylesbury, and the more northern divisions of the county, the alternating produce of the meadows rendering exertion less necessary, the farmer turns a deaf ear to every argument of an instructive tendency.

The soil of this county is principally composed of rich loam, strong clay, chalk, and loam upon gravel. Its chief application, in the Chiltern district, is to the growth of wheat, barley, oats, beans, and flax; the northern division, as we have already intimated, is chiefly applied to pasture and meadow, with a very small proportion of arable. The great quantities of butter annually made on the dairy farms, are mostly purchased by the London dealers, who contract for it half-yearly. The average weight produced weekly from each cow, is eight pounds in summer and six pounds in winter. In some of the dairies a very useful machine, called a mill-churn, has lately been introduced, by which the fatting operation of churning is greatly facilitated, the milk being worked by a horse. In other dairies a barrel-churn is used, with two handles, turned by two men, who make from six to six score pounds of butter at one churning.

The skim and butter milk are made use of to fattet swine. In the neighbourhood of Medmenham, Great and Little Hampton, &c. many calves are suckled; and at Aylesbury, and its vicinity, great attention is given to the rearing of ducks, to supply the markets of the metropolis. For ploughing, and other laborious operations of agriculture, horses are preferred to oxen. The latter have frequently been tried, but the habits of some parts of the soil, and the very heavy quality of others, have caused the farmer to decide in favour of the horse. In the southern parts, the swinging and high wheel ploughs are chiefly used, and are drawn by four horses ranged two abreast. In the northern division the loofe handle swinging and low wheel ploughs, worked by five or six horses in a line, are principally used. The progress of agricultural improvement is considerably checked on many estates, by the restrictive conditions on which they are leased; the tenants being confined to two or three crops and a fallow, with a prohibition to the growth of clover and green food. The manures are principally marl, peat-, ash, yard and rabbit dung. On some of the strong and cold soils, hair and hoofs are sown with much advantage. Soot and ashes are equally beneficial to the wheat and young clover. Farms are generally let from 601. to 2501. a year; some amount to 5001.; and two or three to 10001. In the Agricultural View of the County, the common fields were estimated at 91,900 acres, but a large proportion has since been inclosed. The waste lands are but inconsiderable, their extent not being more than 6000 acres, the greatest part contained in the heaths of Iver, Fulmer, Stoke, and Wycombe. The southern division of the county produces large quantities of fine beech near a sixth part of the land between the road to Oxford and the Thames is supposed to be covered with that wood. On Wavendon heath (now the property of the duke of Bedford) several flourishing plantations of Scotch firs have been made since its inclosure, about the year 1778. In the coppices on Whaddon chace are numbers of fine oak and ash trees. The chief manufactures are those of paper and lace. The latter affords employment for nearly all the lower classes of females in the county.

The principal rivers are the Ouse and the Thame. The Ouse enters Buckinghamshire on the western side, passes Water Stratford, and flows in a devious course to Buckingham; thence winding to the north through a rich tract of meadow land, pursues its way to Stony Stratford, Newport-Pagnell, and Oxley; from afterwards, turning suddenly to the east, it leaves the county near Brayfield. The Thame rises near the borders of the county in Hertfordshire, and flowing through the vale of Aylesbury from east to west, receives the waters of several smaller streams, and enters Oxfordshire near the town of Thame. The interchange of traffic has been much facilitated of late years by the Grand Junction canal, which enters this county near Woolverton, and running easterly, goes within a mile of Newport-Pagnell; thence, flowing to the south, it passes Fenny Stratford, Stoke Hammond, Linclade, and Ivinghoe, into Hertfordshire, near Bulbourne. From a branch of the canal at Old Stratford, a cut has been made to Buckingham, and another from Bulbourne to Wendover.

Buckinghamshire is in the diocese of Lincoln, with the exception of six parishes belonging to the see of Canterbury, and four to the diocese of London. It sends fourteen members to parliament; viz. two for the county, two for Buckingham, two for Aylesbury, two for High Wycombe, two for Amersham, two for Wendover, and two for Great Marlow. It pays twelve parts of the land tax, provides the
militia with 560 men, and is in the Norfolk circuit.

General View of the Agriculture of the County of Buck-

ingham.

BUCKLAND, a township of America, in Hampshire

county, and state of Massachusetts, containing 715 inhab-

itants; 120 miles west from Boston.

BUCKLE, in Matters of Trade, a little mettallurgic

machine, whereby to return and keep fat certain parts of

the habit, as well as of the harness of horses, &c.

The word is formed from the French boucle, and that,

according to Caffeneve, from the barbarous Latin phuscus,

which signified the same. According to Menage, from

boucle, the ainfe, or handle of a buckle. The buckle is a

part of modern dress, corresponding to the f[kras] among

the ancients. Buckles are of divers sorts, as shoe and garter

buckles; some round, others square, or oval, or cut, each of

which have their respective artificers by whom they are made.

The like may be said of the great variety of buckles belonging

to the pack and hackney faddles.

BUCKLERS, gifts, among Saxons, is a four square hord, with

a tongue, which is made steady, by going through a hole

of leather, and tailed with narrow thongs.

BUCKLER, a piece of defensive armour, used by the

ancients to screen their bodies from the blows of their

enemies.

The word comes from the barbarous Latin buc[calumen] of

buccula, the umbo or middle point of this weapon, which

had usually a head or mouth, represented prominent

thereon.

The buckle is the same with what we otherwise call shield

or target; and by the one or the other we indifferently

render what among the ancients were denominated clupeus,

featum, and para: though the three latter were different

from each other.

The featum was an oblong shield, with an iron boss or

umbo projecting from the middle; 4 feet long and 2 ½ broad,

made of wood, joined together with small plates of iron,

and wholly covered with a bull's hide. The clupeus was a round

shield of a smaller size. The para was a round buckle,

made of wood, and covered with leather.

The buckle of Achilles is described in Homer, that of

Æneas in Virgil, that of Hercules in Hesiod: Ajax's

buckler was lined with seven bulls' hides.

The buckler among the Greeks, called axios, was some-
times composed of wicker-work, and sometimes of the wood

of fig, willow, beech, or poplar; but most commonly

of hides, which were doubled into folds, and fortified with

pieces of metal. In the middle of the buckler was a boss,

upon which was fixed another prominence. A thong

of leather, and sometimes a rod of metal, reached across

the buckler, and served for hanging it on the shoulders.

Sometimes it was held by little rings; and it had afterwards

a handle, composed chiefly of small iron bars crossing each

other, in the form of the letter X. When the wars were

ended, and the bucklers suspended in the temple of the

gods, they took off the handles, that they might become

unto for immediate use. Little bells were sometimes hung

upon bucklers to strike terror into the enemy. They were

often adorned with various figures of beasts and birds, of

the celestial bodies, and of the works of nature. The bucklers

of the Argives seem to have been longer than the rest, and

to have covered the whole body. Their form was usually

round. Phil. Trans. N. 241, p. 186. See Shield. See

also Armor, and Arms.

The ancients were particularly solicitous to preserve their

bucklers in fight; it being highly unsafe, and even penal,
township in Cumberland county, and district of Maine, near Portland, containing 453 inhabitants.

BUCK-WHEAT; in Botany. See Polygonum fugo-

frym. Buck-wheat, in Agriculture, is a sort of grain much cultivated in the field in some districts. It is carretly recommended to farmers by Mr. Young, in his excellent Calendar of Husbandry, as being yet only known by name in nineteen parishes out of twenty throughout the kingdom. It po-

ffesses as many excellencies to good farmers, he supposes, as any other sorts of grain or pulse that are employed in cul-
vation; having this property of ameliorating the land, as well as that of preparing it for wheat or any other crop. It is equally valuable with barley, and where known fails at nearly the same price; and, besides its utility in fattening some sorts of animals, is the best of all crops for fowling grafs feeds with, as it affords them the same shelter as barley or oats, without depriving them of their necessary support. The time of fowing it has likewise an advantage in affording a full opportunity for getting the soil into a proper con-

dition. And there is scarcely one fourth of the expanse of a barley crop incurred in the feed.

It is sowed by some to thrive well on any soil, even tho' of the poorest kinds; and that in most of the arable districts it is sowed on the inferior forts of land, as when cultivated on the richer kinds, it is found to run too much to shrav.

Mr. Banniler, however, observes, in his Synopsis of Huf-
bardry, that it delights in land which has been reduced into good order by tillage, and has likewise partaken liberally of the dung-cart, for which reason it often succeeds a crop of turnips; and there is this advantage attending the cultivation of it, that, as, from the tender nature of the plant, it re-

quires to be fown late, it may follow a crop of turnips that has been fed off at a time when it would be highly impru-
dent to sow the ground with barley.

Mr. Young considers this as a very profitable crop on all forts of land, except the very heavy kinds, that require late fowing, and where barley cannot be put in at a sufficiently early period; as he suspects there are not many soils on which a buck-wheat crop fown in May will not be more va-
rable than one of barley fown at the same time, though it is the common practice in many districts to put that crop in at so late a season.

The lands intended for this grain should undergo a proper tillage in April, so as to render them fine and perfectly clean from weeds, especially where grafs-feeds are to be fown with it.

The proper time for fowing buck-wheat, Mr. Banniler ob-

erves, is in May, "when there is no longer any danger to be apprehended from the frosts; for for tender is this ve-

getable at its first appearance, as to be unable at an earlier period to withstand the vernal cold; and the slightest frost, in their infant state, would infallibly cut off the young shoots; and, as from this circumstance it must be fowm at a season when dry weather may be expected, the crop does on that account not unfrequently miscarry." And Mr. Young af-

fers, that it often succeeds well, when put into the ground in June, and even the beginning of July, which is considered as an advantage in a crop that prepares the land for what.

But the author of the Synopsis of Husbandry remarks,

that "being fown late, the harvest likewise falls out very backward, by which the greater part of the crop is often

devoured by the hogs in the field; so this grain seldom ripens till towards Michaelmas, when the other corn stubbles have been long open. Add to this, the injury likely to accrue from rain, which may be expected to fall in great abundance

at this season, so that the hauin, being extremely succulent, does in the most kindly harvest require a great deal of field room; but in a wet autumn it is a very difficult matter to get the crop home in good order; and in such years he has known the fraughts of buck-wheat lying abroad throughout the greater part of November." Hence there is evidently great hazard in this grain, not only from its being exposed to the ravages of the hogs, when cultivated in open fields, as before mentioned, but from the shedding of the feed; cir-
cumstances which will cause the returns to be very trifling when threshed. To this may be added the inferior value of the straw, chaff, &c. when compared with an oat or barley crop.

The proportion of feed which is necessary, must vary in some measure according to the nature of the land; but, in general, a bushel to the acre is fully sufficient. It should be well harvested in with a light short-tined harrow.

This grain generally, as has been seen, bears a price equal to that of barley, and is used for fattening of swine, poultry, and other domestic animals. "In its external form," Mr. Banniler says, "it bears not the smallest resemblance to wheat; and the method of culture, and the progress of its growth, are totally different from that grain: but, when, ground, it produces a white flour, where it may probably have gained the appellation. In Hertfordshire and Buck-
inghamshire, it is a common mode of husbandry to low turn-
ip feed with buck-wheat; but the Kentish farmers usually fow their woord or weld on their buck-wheat lands; and as the feeds of either cover a light bed, and both of these require to be fown late, the wolves generally succeed well when raised among buck-wheat; and sometimes buck-wheat, turnips, and woord are crowded together on one seazon." This is, however, a practice by no means to be generally adopted.

The proper quantity of this grain, according to this writer, "to fow on an acre, is half a bushel; and the uncertainty of the return, that five quarters have been produced from an acre in some years, while in others not so much as five bushels.

"The green haulm of buck-wheat has a peculiar inebriating effect on swine. He has seen hogs, which have fed heartily on it, come home in such a state of intoxication, as to be unable to walk without reeling."

This sort of grain is likewise, he says, sometimes "fown on fift lands, for the purpose of ploughing in the stalks as a manure. On fawds, where the land has a clayey bottom, this method may be purified to advantage; but it is to be noted, that the ground should be in pretty good heart, so as to throw out a large burthen of haulm, otherwise no benefit can accrue from this mode of husbandry." At the flaying of the fawds in May, in this mode of culture, the feed should be fowm pretty thick; and when the stalks have ar-

rived to their full growth they should be laid flat with the roller, and afterwards turned in with the plough; and when the ground has continued in this state till towards Michael-

mas, by which time the stalks of the buck-wheat will be rotted, the feed furrows for the succeeding crop should be be-
gun. "This method of ploughing in the green stalks of buck-wheat contributes, it is observed, much toward the melioration of stiff soils, and dispenses them to work more kindly than they would otherwise have done, by overcoming that adhesion, which is the greatest evil that attends this species of land."

The author of the "New Farmer's Calendar," who affirms us that he speaks from much actual experience, fays, that "the invariable result has shown its inferiority to every other grain, but superiority over other vegetable food, namely 3 N 2 carrot.
carrots, potatoes, and the like. In the state of herbage, cattle, he knows, will eat it; but it is from Hobson's choice, as a hundred trials have convinced him. Its virtues for ploughing into the land is undoubted, on account both of its bulk and succulence. The juice of it, however, is watery, and far enough from nutritious. Hogs, he has found from numerous trials, fatten neither to sail it, nor is the flesh

almost every species of weeds; an excellency peculiar to this crop. The method of ploughing buck under, and the aftermanagement of buck-fallows, are nearly as for wheat. The harvest-process is like that of barley, as is that of its
mery and management; except that the straw being fit for

Mr. Mofely of Suffolk cultivated this crop after tares, finding it highly advantageous as a preparation for wheat, by prefering the land, after that crop had been removed, from the dissipating effects of the sun till the period of the wheat being fown. This is a combination of crops by which much is effected in the opinion of Mr. Young; "a coat of

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BUC, in Ancient Poetry, pastoral; a kind of

poems relating to shepherds and their flocks. The word is
defined from βουκόν, κέφαλας, κέφαλας, met; hence ἑανίκον, to feed cattle, and ἐκφαγέω, λαβομένος, a herdsman.

Bucolic poetry is the most ancient of all the kinds of

poetry; and is supposed to have had its origin in Sicily, amidst

the mirth and diversions of the shepherds; and have been

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Fontenelle observes, that Theocritus's style is sometimes

a little too bucolic. Some authors attribute the invention

of bucolic poetry to a shepherd called Daphnis; and others
to Bucolins, son of Laomedon; but this appears all fiction.

Some ascribe the invention of bucolic poetry to the herds-

men of Laconia, who, not being able to hold the common-

monial feet of virgins in honour of Diana Caryatis, by reafon

of the war with Xerxes, instituted ἑανίκον, or bucolic

exercises, in lieu thereof.

Hence also the origin of a sort of poetical champions,
called ἑανίκα, by the Latins lictorii, who went about the

country, contending for the prizes frequently propofed

for the conquerors in this kind of combat; of which rank

Daphnis was the most distingufh'd. They not only re-

hearsed their verses, but played on a kind of ἄφραλις, or pipe,

Bucolic poetry is by some called Afrabas, as being suppos'd
to have first commenced among the ancient herdmen in rid-

ing a sort of waggon called γραβάς. It is usually divided

into monopropodium, or monologue, wherein only a single per-

son
son speaks, and ἀμαθεῖα, or dialogue, wherein are several interlocutors.

BUCOLICS, says Vossius, bear some resemblance to comedy, as they are both pictures and imitations of ordinary life; but with this difference, that comedy represents the manners of the inhabitants of cities; whereas bucolics exhibit rural occupations. Sometimes this kind of poetry has action, and sometimes only narration, and it is sometimes composed of both. The hexameter verse is the most proper for bucolics in the Greek and Latin languages.

Theocritus's IΔYLLIA, and Virgil's EcLOGUES, are the chief of the ancient bucolics now extant. The first modern Latin bucolics are those of Petrarch, about 12 in number, written about the year 1350. Their number multiplied so soon, that a collection of 38 modern bucolic poets in Latin was printed at Basle in 1546. Thse writers judged this indirect and disguised mode of dialogue, consisting of simple characters which spoke freely and plainly, the most safe and convenient vehicle for abating the corruptions of the church. The eclogues of Mantuan, which appeared about the year 1460, were the model of Alexander Barklay (see BARCLAY), and became so popular, that Mantuan acquired the estimation of a classic, and was taught in schools. But although Barklay copies Mantuan, the recent and separate publication in England of Virgil's bucolics, by Wynkyn de Worde, might partly suggest the idea of this new kind of poetry.


BUCORTA, in Geography, a river of Italy, which runs into the sea near Paghlapioli, in Calabria Ultra.

BUCQUET, JOHN-BAPTISTE, MICHEL, in Biography, was born at Paris, February the 18th, 1746. After passing through the usual school education, in the course of which he had eminently distinguished himself, he was sent by his father to be instructed in jurisprudence; but his disposition leading him to the study of natural philosophy, he soon quitted the law, and applied himself with zeal to acquire a knowledge of anatomy, botany, chemistry, and mineralogy, attending the lectures of the most celebrated masters, and with such affability, that he was soon qualified to become a teacher. His first course was on mineralogy and chemistry conjointly. Thence he treated in a familiar manner; and as he had made himself perfectly acquainted with the subjects of his lecture, and had a peculiar facility in communicating the knowledge he had acquired, he soon became a popular teacher. This procured him the intimacy of the celebrated Lavoisier, with whom he went through a series of experiments, to ascertain the properties of heat; they also analysed a variety of minerals, at that time but little known. 'To enable his pupils the more safely to profit by his lectures, he published an "Introduction to the Analysis of the Vegetable Kingdom." He also lent to the Royal Academy accounts of various chemical experiments, which were published with his memoirs. He had now acquired so much reputation, that on the death of M. Bourdelin, he was admitted a member of this academy. He had before, viz. in the year 1776, become a member of a society, instituted at Paris, for the improvement of medicine. To this society he lent the account of a procès for making opium transparent; for making lapis cauticeus; and a memoir on the action of volatile alkali in the deliquium, caused by carbonic acid. By these various labours, pursuèd with ardour and intemperies, he had now, though a young man, so impaired his health, as to render him incapable of performing his duties without having recourse to powerful stimulants, which, while they gave a momentary vigour, fill farther fapp'd his constitution. But as he was married, and had several children, for whom he had made but flender provision, he determined to persevere.

He has been known, his biographer says, to take two pints of water and an hundred grains of opium in a day. In this way, something similar to that practiced by John Brown of Edinburgh, he passed the latter months of his life. His last memoir, read to the academy was on inflammable air, and the means of rendering the hydrogen gas of metals as pure as that obtained during the volatilization of metals. He died on the 24th of January, 1780, escaping, by this early and premature dissolution, the keen and bitter pang he must have felt at facing his friend Lavoisier hurried to the guillotine, an event which took place, to the regret of all lovers of science, a few years after. Gen. Biog.

BUCRETIVUS, DANIEL, a physician of eminence of Brussels, was initiated into the knowledge of anatomy and medicine under Spigelius, who, a little before his death, entrust-ed him with his papers, containing his system of anatomy, with directions to publish them. This office Buretius performed with diligence, supplying such parts as were not completed, partly from his own observations and labour, and partly from the plates of Julius Caperius. Having completed this work, which was published in royal folio, at Padua, in 1626, he went to Paris, and attended for some mouths the dissections of Riolan. Riolan complaining to him, that Spigelius had introduced into his work many observations, taken from his books, without making any acknowledgment from whence he had received them, Buretius confessed he had done it, to do honour to his master. Sometime after he retired into a monastery, where he died of a dysentery, about the year 1630. Douglas. Bibllog.-Anat.

BUCTON, in Anatomy, a word used by Severinus, and some others, as a name for that part of the pudendum muliebre commonly called the HYMEN.

BUCY LE LONG, in Geography, a town of France, in the department of the Aisne, and district of Soissons, 1 league N. E. from it.

BUCZA, a town of Lithuania, in the palatinate of Brzez, 90 miles E. of Brzez.

BUD, in Botany, in its strict and most usual acceptation, as an English word, denotes the protruberances which appear in the axils of the leaves of trees and shrubs, and sometimes when there is an excess of vegetative power, on the trunks themselves, unaccompanied by a leaf; and which contain the rudiments either of separate leaves and flowers, or of both together, on an elongated receptacle, which gradually shoots out into a young branch. But, as a scientific term, it is convenient to include in it all the means employed by nature for the renewal of plants, without the intervention of fertilized seeds. A bud, taken in this extensive sense, is fatted either on the ascending cænus, or on the descending cænus, or on a tuberous radicle. On the ascending cænus, it is either a gem, or a cauline bulb: on the descending cænus, it is either a root bulb or a turio: on the tuberous radicle, it is usually called an eye. See thes e words.

BUD, in Vegetable Anatomy. The transpiration of the leaves, during their exposure to the light and heat, determines the course of the juices of the vegetable powerfully towards their points of attachment. The tubes, which convey the sap, elaborate it; the cambium is gradually formed, and deposited around the base of the leaves: it there gives birth to new tubes, which obeying the impulse communicated to them, elongate towards the bark, and penetrate it. As the spring is the season most favourable to the production of new parts, it is then that we first perceive what is called the eye of the bud, within the axilla of the leaves, or that angle formed between their base and the branch. In the course of the summer, the eye enlarges,
enlarges, and becomes a bud; it continues to increase during the summer, and in the winter falls into a state of torpidity; in the ensuing spring, however, it revives, and expands into a branch or incipient branch, which acquires solidity in the flower, and becomes clothed with leaves or flowers.

The period required for the evolution of the buds is subject to vary; it is sometimes retarded for five years; as other times accidental causes accelerate this process. Thus, if the leaves, which accompany the buds, happen to perish, their development is so much more rapid, that these buds produce branches containing leaves and flowers in autumn, which, in the ordinary course of vegetation, would not appear before the ensuing spring. These unimally productions, however, are destroyed by the first frost.

The buds of the same tree are not all developed in the same time, some being more exposed than others to the action of air and light. In general, those situated at the extremity of the branches are the first to unfold themselves.

The position and figure of the buds are peculiar in each genus, and often serve to characterize the species of plants. A knowledge of these distinctions is found very useful by those who rear trees in nurseries.

Bomnet arranged buds into five orders, according to their position upon the branch. In the first they occur alternately as in the willow tree. In the second, they arise opposite to each other as on the aspen. The third mode of arrangement is, when the buds surround the branches in a ring; the example of this which Mr. Bomnet quotes, is the plum-granata; but all the young branches of this tree have the buds placed opposite. The fourth position of the buds is, where they form, with respect to each other, quincuncial, and, when taken together, compose a spiral figure, which surrounds the branches in the manner of a cork-screw. This takes place in many fruit-trees, but more especially in the plum-tree. In the fifth order are those trees which have the leaves surrounding the branches in a double spiral, as they appear in the pine. The true buds of the pines do not, however, grow in the axil of the leaves, but on the extremity of the branches.

In the trees with opposite buds, the extremity of the branches are usually furnished with three buds, the one in the middle being much the largest; and when the buds are placed alternately, the branch is commonly terminated by a single bud.

The direction of the buds is different in different species; sometimes they stand out from the branch, that they form with it a right angle, as may be seen in the lilac; in other instances, as the cornel tree, they are chiefly applied in all their length to the side of the branch. The plum散步, the buds at the extremity of the branches are bud close, as those of the cornel-tree; whilst those on the other parts of the branch are directed upwards.

There are numerous other peculiarities in the form and appearance of the buds, which, although useful for the gardener to know, it would be tedious to enumerate in this place.

No annual plant can, with propriety, be considered as possessing buds; these parts being intended to survive the winter, and contain the rudiments of the branches and flowers, which are to be developed on the return of the season of vegetation. The true bud ought not, therefore, to be confounded with those small cones found in the axil of herbaceous plants, and which are converted into branches in a few days. The liliaceous plants, and other monocotyledons with bulbous roots, do not produce buds in the axil of their leaves: the bulbs of these vegetables perform all the functions of buds, and have, therefore, very properly been ranked as such, and called by some writers subterraneous buds.

Although we acknowledge the finitude of these two parts to each other in the fullest extent, we prefer giving the description of buds under their proper name.

See **Bud**.

Besides the varieties of buds which serve to distinguish different genera, and sometimes the species of plants, there are other peculiarities which characterize the nature and offices of different buds among the same tree; some buds being intended to develop the leaves and branches; others to contain only the parts of fructification; and others again give origin to both leaves and flowers. Those of the first kind are called the leaf buds, or buds with wood; the second, the flower or fruit-buds; and the last are termed the mixed buds. The cultivators of fruit trees are careful to discriminate the different kinds of buds, as a guide in the various operations of grafting, pruning, &c. The leaf-buds, compared with the others, are slender, long, and pointed; the fruit-buds are thick, short, and round; and those of a mixed nature, have an intermediate form, being neither fo pointed as the one, nor fo round as the other.

In a great number of trees, the flower buds are situated upon the extremity of the little ramifications, called fruit-branches. See **Branches**. Fig. 9. of Plate II. in Vegetable Anatomy, represents a fruit-bud of the pear-tree, fulltained by one of these little branches a the branch, b the bud; and on the neighbouring branch upon which one grows, is seen a wood-bud, indicated by c.

In the peach-tree, and many others of the same family, the wood and fruit-buds arise together from the same branch; this is shown by fig. 10. of Plate II. in Vegetable Anatomy: a is a short portion of a branch of the peach-tree, on which are placed three buds; b, b, the two external buds contain the flowers &c. the intermediate one is the wood-bud.

When the male and female flowers are situated upon different parts of the same plant, or upon separate individuals, it is proper to distinguish the flower-buds into two kinds; as in many species, the buds, which furnish the catkins, are very unlike those which produce the fruits; thus, in the walnut-tree, the fruits owe their origin to the buds placed along the length of the branches, whilst the catkins proceed from other buds so very small that they are hardly perceptible, and which are situated at the side of those which furnish the fruits.

The buds of almost every vegetable, which is congenial to a northern climate, are clothed with a number of scales, and a cotton-like substance. The scales are laid upon each other in an imbricated manner, or like the tiles of a houfe. Those situated most externally are long, hard, and dry, and generally of a brown colour, but the scales which are covered by others are more plant, tender, and succulent; and the nearer they approach to the centre of the bud, they acquire more of the herbaceous texture of young leaves, the internal scales are usually of a pale green or white colour. The scales are very generally lined with a downy or cotton-like substance. This becomes dry and coloured upon the external scales; but where it is shielded from the action of the air, it remains soft and white, not unlike the downy surface of sainin. The form of each scale is that of a spoon or shallow oval cup, with one extremity more thin and pointed than the other. The surfaces of the scales are usually beincarded with a rivicd matter, of a gum reinous nature; this becomes involved in the down, and forms a perfect barrier to the transflusion of air or moisture to the internal parts of the bud; and not unfrequently the reinous matter is so abundant, that it exudes upon the external surface of the bud, giving it all the appearance of being coated.
coated with varnish, as may be observed on the buds of the 

_horse-chestnut, the jacanilla, &c._

If those buds, which have their supersicacies imbued by a

refined substance, be removed from their situation, and if

the surface which unites them to the branch be covered with

wax, they may be suffered to lie in water for several months,

without experiencing any alteration; ay, it is stated by

Mirbel, that this experiment has been prolonged for some

years, without the least injury to the buds.

On prosecuting the dissection of the bud to its centre, we

discover either the rudiments of the future branch, or the

parts of the fructification in extreme miniature. In the

wood-buds, the embryo of the branch consists of some

fuculent filaments, or imperfectly formed leaves, folded

together and supported upon a tender football, very similar to

the plumule of the trunk contained in the grain; and in the

fruit-buds, the parts composing the flower can be dis-
cerned at a very early period, although in a very soft and

half organized state.

Both the rudiments of the branch and flower undergo a

continual, though secret development, during their exis-

tence in the bud; which has been ascertained by dissections

of the buds, instituted at different periods of their growth.

The little plumule of the branch can be discovered as soon

as the bud is fairly formed, and continues gradually to

acquire more perfect organization, until it bursts from its

nidus in the full leaflon of vegetation. The rudiments of

the blossoms of the peat-tree are to be seen in the month of

January, in a group of eight or ten flowers, attached by

filaments to a common peduncle. In the midst of these

little flowers there are several minute, thin leaves, of various

forms, and of a pale green colour, which Duhamel conceives

are designed to perform the same offices, with respect to the

embryo-flower, that the feminal leaves answer in the seed.

The lamina may be observed, at this period, within the

flowers, but as yet almost transparent. The petals are

difficult to discern, and the pistils cannot be detected. In

the month of March the tops of the lamina are red; the

petals, although small, may be clearly perceived, and even

the pipes may be distinguished; they are white, and each

nourished by a particular filament: it is probable, that the

pipes, and all the essential parts of the fructification, are

equally with the bud itself, although their softness and trans-

parency prevent their being distinguished: so just was the

observation of Crew, that the flowers of the spring were

formed in the preceding year.

The structure of the wood and flower buds is exemplified in

Plate II. in Vegetable Anatomy. Fig. 11. exhibits the ex-

ternal appearance of the bud of the horse-chestnut, which is

selected for the sake of its great size. The scales are seen

laid one over each other, like the tiles of a house; and their

more pointed extremities being turned upwards, and all their

dges in close contact, as the bud appears in winter. At

the base of the bud may be seen some projecting rugae, and

immediately beneath these the impressions left from the

attachment of the former leaves. Fig. 12. shows a longi-

dudinal section of the same bud; a, the brown scales which

form the external envelopes; b, the tender scales situated

more internally, and becoming more thin, pliant, and folded,

the nearer they are to the centre; c, the imperfectly-formed

leaves of the young branch comprehended together, and

involved by the white down or cotton-like substance; d, the

bark of the branch which sustains the bud; e, the ligious

portion of it; f, its pith. Fig. 13. represents a bud of the

horse-chestnut, deprived of its scales in order to bring into

view the vegetal branch, which has its parts separated a little,

and cleaved from the down which envelopes them, that they

may be more distinctly observed. The marks appearing

beneath the plumule, point out the attachments of the

scales, which have been removed.

The fourteenth, fifteenth, sixteenth, and seventeenth figures

in Plate II. in Vegetable Anatomy, are intended to explain the

structure of the fruit-bud. Fig. 14. is the fruit-bud of the

peach-tree, divided longitudinally, and considerably mag-

ified; a, a, indicate the umbilicated scales which compose

the external envelope of the bud; b, b, refers to the cut edge

of the calyx of the flower, which, in the embryo state, forms

a complete circle, including the parts of fructification; c, c, are

the lamina, almost pellucid; d, the pistil. Fig. 15. exhibits

one of the scales abstracted from its situation, and highly

magnified; it appears entirely covered by villous processes.

Fig. 16. shows the flower bud of the peach-tree, a little larger

than the natural size, as it appears without its coverings; a, is the calyx, with its edges applied to each

other, so as to form a perfect cylinder. Fig. 17, is the same

calyx drawn a little larger, and with its leaves separate from
each other, and turned back to expose the lamina; and in the

pistil within the calyx may also be seen the rudiments of

the petals.

The buds of the pine differ in many respects from those of

other trees. According to Mr. Tichond, who has described

these buds, they are placed always on the extremity of the

branches; they are commonly numerous, the bud, which is

at the extremity, being succeeded by others much smaller

than itself; they are all contained in one membranous sheath,

formed of many cylindrical pieces, adjusted the one to the

other, and accompanying the development of the bud.

When it first appears it is about two fingers in length; it

then continues to extend, soon becomes large, and the lit-
tle leaves, which have been hitherto sealed up, unfold them-
selves, and the branch comes forth. It is possible to dis-
cover, a long time before the buds are matured, those which are to

appear upon the extremity of the branch.

It is difficult to decide with certainty what are the parts of

the branch from which the buds, in the first instance, are
derived. When the bud makes its appearance, it is so im-
pertinently organized, that it scarcely admits of dissection, or of

being distinguished into those parts which it ultimately ex-
hibits. Accordingly, we find, that anatomists have held

different opinions upon this subject: Pontedera con-

ceived that the rudiments of the buds were lodged in the

wood alone. Duhamel supposed that all the parts of the branch

were continued into the bud; the internal part of the

bark being prolonged to form the scales, and the bark of the

plumule: the ligneous fibres giving rise to those of the

embryo branch, and the pith being extended into the interior

of the different parts of the bud. On the contrary, Hill and

others assert, that the buds are formed exclusively by

the parenchyma. The scales of the bud, however, appear

to be leaves which have never arrived at maturity: this is

the opinion of Mirbel, who illustrates with much inge-

nity; he supposes that the leaves, which afterwards appear

as the scales of the bud, are rendered abortive, by the abate-

ment in the circulation of the sap, which takes place on the

approach of winter; for, if the motion of the sap were to be

either totally suspended, or not impeded at all, no scales

would form, which is exactly what may be observed in a few

trees which inhabit cold countries, and in most plants that are

natives of hot climates. If, also, the top of a tree be cut

off before the evolution of the buds, those which are after-

wards developed are unfurnished with scales.

Around the base of the bud there is always a degree of

tumefation of the branch, which is called a _burr_; this is

formed at the eruption of the bud, and enlarges in all direc-

tions,
tions, before the scales fall, and the parts contained in the
bud are unfolded. The burs is supposed to answer two very
important purposes: with respect to the bud, the first is to
supply the place of the leaves, by collecting a greater portion
of the sap around the root of the bud, and thus supporting it
during its hybernation, and yielding, during the season of
interrupted vegetation, a degree of provisional nourishment
to the embryo branch or flower, which is necess-
ary for the secret development they are known to expe-
tience. The other use of the burs appears to be to separate
the scales of the bud from each other previous to the ex-
pansion of the flower; this is accomplished by the enlarg-
ment of the burs on the return of spring. It is evident,
the slightest separation of the scales, at their origin, must
cause a considerable one of their unattached edges; without
the affluence derived from the growth of the burs, it seems
quite impossible that the tender plumule of the branch or
the embryo flower should ever be able to force its way
under the hard and unyielding scales that enclose them, more especially
in those instances where the scales are agglutinated to each
other by the gum-rinus matter.

In some experiments which were undertaken by Senebier
upon the buds of the objects, apple, and pear trees, he found,
that by depriving the flower-buds of their scales and little leaves,
he did not interrupt the evolution of the flower, nor prevent
their going on to produce fruits. Senebier accounts for the
flowers surviving the privation of their scales, by supposing
that the burs is in some degree might supply their place.
The most extraordinary circumstances in the history of
buds, are the conversion of flower-buds into wood-buds, and
that of wood-buds into flower-buds. The former is related
as being effected by Mariotte in this manner: he deprived,
in the latter part of the month of August, a rose-tree of its
branches and all its leaves, and suffered them remain only the
buds, which ought to produce flowers the ensuing spring;
these buds continued to grow, but when the period of their
development arrived, instead of furnishing flowers they put
forth leaves and branches.
The conversion of the wood-buds into those bearing fruit
is accomplished by a variety of means, practised by common
gardeners. Thus, if the upper part of a branch be cut away,
the buds near the extremity of the remaining stem, from
acquiring a greater proportion of supply of nutriment, will
produce leaves and wood, which might otherwise have been
flowering-buds; and, on the contrary, if a vigorous branch
of a wall-tree, which was expected to bear only leaf-buds, be
bent down to the horizon, or lower, it will bear flower-buds,
with weaker leaf-buds. On this circumstance chiefly depends
the management of wall-fruit trees, and of espaliers. For
the purpose of converting leaf-buds into flower-buds it has been
also recommended: to bind some of the most vigorous shoots
with strong wire, and even some of the large roots. Some
gardeners score the bark in a spiral direction, or cut off an
entire cylinder of the bark, three or four inches long, and
replace it with a proper bandage.
The bud appears to fulfil nearly the same purposes in the
vegetable economy as the seed. It contains the embryo
of the branch or of the flower, and shields it from the operation
of the air, the light, and moisture, and the vicissitudes of tem-
perature, until it is enabled to withstand these influences by
a full exercise of the functions of vegetable life. By this
means the internal parts of the bud are capable of gradually,
though invisibly, developing themselves, like the plantule
of the seed, independently of the vegetable from which they have
drawn their existence. The bud also, like the grain, admits of
removal from its original connexions; of having its actions
suspended for an indefinite period, and afterwards of having
them renewed at pleasure; of deriving, by transplantation or
grafting, its sustenance from different sources; and, lastly,
on being laid in the earth, of producing an interior plant in a
similar manner as the seed, when placed in the same
circumstances. As the seeds are the oviparous progeny of vege-
tables, the buds may be considered as the viviparous offspring.
They appear to differ chiefly in this circumstance, that the
seeds always result from a sexual congress, and partake of the
properties of both parents; whereas the buds proceed di-
rectly from one parent, to which their productions afterwards
bear a perfect resemblance.

Buds are used, in Country Language, for a weaned calf
of the first year; so called, because the horns are then in the
bud.

BUDA, in Geography, called by the Germans Offen, the
ancient metropolis of Hungary, is seated on an eminence
on the west side of the Danube, and is connected with
Poth, situate on the opposite side of the river, by a bridge of
boats about 4ths of a mile in length, and consisting of 63
large pontoon. The old city is seated on a plain extending
itself from the suburbs of New Buda to the space that lies
between the Pilis mountains and the Danube, and was
formerly called "Scienia." But this is now a wretched
place, and affords nothing remarkable besides the ruins of an
old aqueduct, built either by the Romans or Hungarians.
A wide fosse surrounded was discovered, with which the
Turks seem to have been well acquainted, and which leads
from this place to the citadel of Buda. New Buda is
a royal free town. It was formerly the capital of the king-
dom; and, in its connection with Poth, the largest and finest
of all the Hungarian towns, and the residence of the kings.
The houses are mostly constructed of square stone; but since
the Turks took possession of it, they suffered the fixed build-
ings to sink into decay. The lower part of the city, called
the "Jew's town," extends like suburbs from the upper
city to the Danube. The higher town occupies the decliv-
ity of a mountain, and is fortified with walls and towers.
The castle, seated on an eminence towards the east side, com-
mands the greatest part of it, is encompassed by a deep
moat, and is defended by an old-fashioned tower, to which
some new fortifications have been added. One suburb
is enclosed with hedges. The most formidable of its present
structures are the canvassers, mosques, bridges, and baths.
The chief public and private buildings are in Poth, and
within the fortresses; the royal palace in particular is a
large and lofty edifice. The form of Poth is quadrangular;
and it has, besides the royal palace, a military hospital, with several
churches and convents. At a little distance from it is a field,
in which many diets have been held, and where the cities
of Hungary formerly met on horseback, and in arms, to deth
their king. Among the decayed buildings of Buda, the
city of the Ascension of the Virgin Mary is the principal,
near which the Jefuits have an academy or college and sem-
nary. The Carmelite nuns have a convent, and the Fran-
ciscans have churches. Both Catholics and Calvinists are
allowed the free exercise of their religion; and the Jews
have a synagogue near the castle garden. But the most
famous edifices of Buda are its baths; of which there are
two parts, the upper or Trinity baths, and those of Mustafa,
who was governor of the place, and built them with
stone, covering them with lead. Some of these waters are
of such moderate temperature, that they may be used in
their natural state either for drinking or bathing; but others
are so hot, that they must be mixed with cold water, or
conveyed to cool in other baths, before they can be used.
The adjacent country is fertile, though not well cultivated;
and affords good wine and excellent melons.
This city was the residence of the Hungarian monarchs, till it was taken by the Turks, under the sultan Solymán, in 1526; but though they were defeated of it the next year by Ferdinand, archduke of Austria, they recovered it again in 1529. Although it was afterwards frequently besieged, it continued under the dominion of the Turks till the year 1686, when it was besieged and taken, after an obstinate resistance and great slaughter, by the duke of Lorraine. From this time it has remained under the dominion of the house of Austria. In 1784, the seat of the provincial government, and the public offices, were removed from Pressburg to Buda; and, therefore, this city, joined with Pesth, may still be regarded as the capital of Hungary. The population of Buda is estimated at 20,000; but if Pesth be included, it may be computed at 31,000. Dr. Townson, (Travels in Hungary, 4to. 1796.) states it at 38,000. The university of Buda, as we are informed by this traveller, poffefles an income of about 20,000l. sterling, of which only 4000l. are applied towards paying the salaries of the professors. Besides the usual chairs which exist in every university, there are those of natural history, botany, and economy. The instruments for natural philosophy, and the models of machines are good; and the museum of natural history, which contains the collection of the late professor Pillar, besides that of the university, may be ranked among the finest collections of Europe. Buda is distant 125 miles E.S.E. from Vienna, and 15° N. N.W. from Belgrade. N. lat. 47° 30'. E. long. 16° 10'.

BUDA, a town of Lithuania, in the polatinate of Wilna; 80 miles E. of Wilna.

BUDÆUS, William, in Biography, one of the most learned men of the 15th century, and a descendant of an ancient and honourable family, was born at Paris, in 1467; and having passed through the grammar schools at Paris, and having spent three years at Orleans, in the study of the law, to little or no purpose, he conceived a disgust at the prevalent barbarism of literature, and devoted himself wholly to youthful pleasures. At length, however, he was seized with an ardent passion for literary pursuits, which induced him to abandon every amusement, and to dedicate his whole time and attention to study, so that he scarcely allowed himself the necessary intervals for his meals and rest. By means of unwearied industry, first without any assistance, whence he called himself autem, and after he had acquired the advantages of instruction from Harmonius, whom he retained at a large salary, and from Laferriere in Greek, and James de Vere in mathematics, he acquired singular reputation as a scholar, and particularly for an acquaintance with the Latin and Greek languages. He had reason, however, to regret that want of early practice, which is adapted to form ease and elegance of language; and hence his style, both in French and Latin, though strong and vigorous, was harsh and perplexed. His first literary performances were translations of some treatises of Plato; and, in 1528, he published "Notes on the Pau-ducts." But his principal reputation among the learned was owing to his treatise "De Afe," which contributed in a very eminent degree to facilitate the study of the ancient coins, weights, and measures. The fame which he thus established excited envy among his contemporaries; and Erasmus, though he acknowledged his merit, became jealous of him, so that a disagreement took place between these two distinguished persons, which prevented Budæus's citing Erasmus in his works. By avoiding the topics which might occasion a suspicion of his faith, he precluded those objections to the revival of learning, to which the interested and the ignorant were at that time disposed to recur. Upon his first introduction to the French court, he was employed by Lewis XII. in two embassies to Italy, and appointed the king's secretary; and in the reign of Francis I., who distingukshed himself by his patronage of learned persons, he obtained the place of master of requests, together with the office of librarian and secretary to the king; and was deputed on an embassy to Leo X. He was also chosen provost of the merchants of Paris. At his request, in concurrence with that of Du Bellay, Francis founded the Royal College, for giving instruction in the languages and sciences. During his progress with the king in Normandy, in 1540, he was seized with a fever, and this terminated in his death, after his return to Paris, in the 73d year of his age. His funeral was performed, in conformity to his express orders, privately, and by night; and this circumstance gave his enemies occasion to charge him with having adopted the sentiments of the reformers, though he had implicitly, and even acrimoniously, condemned them in some of his publications. He had also occasionally declaimed with vehemence against the court of Rome, and the corruptions of the clergy. The suspicion, however, was confirmed by the removal of his widow to Geneva, where she, and two of his sons, avowed themselves protestants. Of his character it is said, that it was fair and honourable; though Bayle observes concerning him, that he was more fearful than beloved in the republic of letters; and that in his disputes with Erasmus he was the least moderate of the two. His works were collected and printed at Bâle, in 1557, in 4 vols. fol. Besides the treatises already mentioned, he wrote "Commentaries on the Greek and Latin Languages," and a "Treatise on the Instruction of a Prince," dedicated to Francis I. Gen. Dirf.

BUDARIN, in Geography, a town of Ruffian Tartary, in the government of Causcaus, on the west side of the Ural; 36 miles S.S.W. of Uralb.

BUDAWUN, a town of Hindostan, in the country of Malwa; 240 miles S. of Delhi, and 132 N. E. of Ougein.

BUDEYOUN, a town of Hindostan, in the country of Odude; 24 miles S.W. of Bereilly, and 70 N. E. of Agra.

BUDEUS, John-Francis, in Biography, a learned and diligent professor and writer, was born at Anhaim, in Pomerania, in 1667; and after having acquired a large fund of learning in the languages, as well as in philosophy and divinity, he first gave private lectures at Jena, and in 1692, was appointed professor of Greek and Latin at Coburg. From thence, he was removed by the invitation of Frederick, elector of Brandenburg, to the chair of moral and political professor in his newly founded university of Halle. After continuing in this situation 12 years, he re-assumed the professorship of theology at Jena, where he died, in 1729. Besides the diligent discharge of his professional duties, he maintained an extensive correspondence, and wrote many works. Of these the principal are, "Elementa Philosophiae practicae, instrumentariorum et theoreticae," 3 vols. 8vo., which served for a long time as a text-book in the Protestant German Universities: "A System of Theology," 2 vols. 4to. much esteemed by the Lutheranes: "The great German Historical Dictionary," 2 vols. fol. ; "A Treatise on Athens and Superstition," 8vo., translated into French; and "Miefeclannus Sacra," 3 vols. 4to. Nouv. Dirf. Hist.

BUDDEKANO, in Geography, a town of Hindostan, in the country of Agimtore, fented on the river Pudder; 82 miles W. of Oudipour, and 100 N. of Amedabad. N. lat. 24° 30'. E. long. 72° 50'.

BUDDENBORG, a town of Germany, in the circle of Wolphalia, and county of Marsch; 2 miles N. W. of Lune.

BUDDLESDALE. See BOTE-SDALE.
BUD

BUDGING, or Grafting, is a method of propagation, peculiar for various sorts of trees, but particularly those of the fruit kinds. It is the only method which can be had recourse to with certainty, for continuing and multiplying the approved varieties of many sorts of fruit and other trees; as although their fruits readily grow, and become trees, not one out of a hundred, so raised, produces anything like the original, and but very few that are good. But trees or bushes raised in this manner, or being budded with the proper sort, the buds produce invariably the same kind of tree, fruit, flower, &c. continuing unimpeachable the same afterwards.

This mode of propagation is particularly useful for pears, medlars, and apricots, which succeed better by budding than by grafting; and are usually worked upon plum or currant stools, raised from seed, and sometimes, from those raised from suckers, layers, and cuttings. These sorts of trees are often likewise budded upon stools raised from the kernels of these kinds of fruit; they are, however, more strong and durable, in general, when grafted upon plum stools. Plum and cherry trees are also often propagated by budding, as well as by grafting; the second sort is, however, generally the more successful by the latter method, as being more apt to suck and go off by budding. These different sorts being of the same genus, grow upon stools of each other, but much the best upon their own stools, as plum upon plum, and cherry upon cherry stools.

Apples and pears may likewise be propagated by the budding method, as well as by grafting; but as they grow freely by grafting, which is the most easy and expeditious, they are more commonly increased in that method. In short, most kinds of fruit trees, as well as others, that are capable of being propagated by budding, also succeed by budding; budding is, however, more adapted to some sorts, and budding to others. Various sorts of forest and flowering trees, deciduous as well as evergreen, may likewise be propagated by budding, which is a certain method to continue particular varieties, such as many of the variegated leaved kinds, as the variegated holles, and many other sorts. The budding in almost all sorts, is performed on young trees raised from seed, suckers, layers, &c. which, when raised purposely for budding and grafting upon, are called stools; and which, after becoming about half an inch thick in the bottoms of the stems, or a little more or less, according to circumstances, are of a proper size for the purpose, though it may be performed upon stools from the size of a goose quill to an inch, or more, being mostly done upon stools or trees of the same genus.

The stools for this use, are commonly, as has been observed, raised from seed, as the kernels or stones of those different sorts of fruit, &c. sown in autumn or spring in beds in the nursery an inch or two deep, which, when a year or two old, should be transplanted into nursery rows, two feet a-furder, and fifteen or eighteen inches distant in the rows, to stand for budding upon, keeping them to one item, and suffering their tops to run up entire; when of two or three years growth, or about the size of the little finger at bottom, or a little more, they are as has been seen of due size for budding upon. Stools raised from suckers arising from the roots of the trees of these different sorts, layers, and cuttings of them, are also made use of; but they are not so good for the purpose. Budding may likewise be performed occasionally upon trees that already bear fruit, when intended to change the sorts, or have different sorts on the same tree, or to renew any particular branch of a tree; the operation being performed on the young shoots of the year, or of one or two years' growth only.

The most proper season for performing the operation of budding, is from about the middle of June, until the middle or latter end of August; some, however, begin to bud in June, but the buds infected so early are apt to drop in the same year, and these not having time to harden, are liable to be killed in winter. The buds for this use should in general be taken only from the young shoots of the year, as those of the same summer's growth, which must be cut from the trees of the sorts intended to be propagated, always choosing them from healthy thriving trees; and if fruit trees, from such as bear the finest fruit of their respective kinds and varieties. A quantity of the heart moderately strong young shoots should be cut each day as they are wanted; and as they are gathered, the leaves cut off, but not quite close, referring about a quarter of an inch of their foot-flasks, trimming off also the soft unopened top end of each cutting, covering them from the sun and air, and taking them out as wanted. As each cutting furnishes many buds, they are to be cut off about an inch and a half long, one at a time, as they are infected in the stools. Those in the middle part of the cutting are preferable to those towards each end; though in cases of scarcity of cuttings, every one of them may be used. One bud only is in general infected in each stool; some, however, place two on each side opposite each other.

The most proper height to bud stools varies according to the intention, but from about three or four inches to six feet or more from the ground is practiced. To have dwarf trees for walls and espaliers, &c. they must be budded from within about three to six inches from the bottom; that they may first furnish branches near the ground; for half standards, at the height of three or four feet; and for full standards, at about five or seven feet high; the stools being trained accordingly.

The necessary implements and materials for this purpose, are a small budding knife for preparing the stools and buds for insertion, having a flat thin haft to open the bark of the stools in order to admit the buds; and a quantity of new bars or rings well moistened, to tie them with.

In performing the operation of budding, the head of the stool is not to be cut off, as in grafting, but the bud inserted into the side, the head remaining entire till the spring afterwards, and then cut off. A smooth part on the side of the stools at the proper height, rather on the north side, away from the sun, should be chosen; and then with the knife, an horizontal cut made across the rind, and from the middle of that cut, a slit downwards about two inches in length, in the form of the letter T, being careful left the stool be wounded. Then having cut off the leaf from the bud, leaving the foot-flask remaining, make a crofs cut about half an inch below the eye, and with the knife slit off the bud with part of the wood to it, somewhat in the form of an ellipse, pulling off that part of the wood which was taken with the bud, being careful, that the eye of the bud be left with it, as all those buds which lose their eyes in trimming, should be thrown away as good for nothing; then having gently raised the bark of the stool where the crofs incision was made with the flat haft of the knife clear to the wood, thrust the bud in, placing it smoothly between the rind and wood of the stool, cutting off any part of the rind belonging to the bud, which may be too long for the slit; and after having exactly fitted the bud to the stool, tie then closely round with bars, beginning at the under part of the slit, and proceed to the top, taking care not to bind round the eye of the bud, which should be left open, and at liberty. When the buds have been inserted about three weeks or a month, examine which of them have taken;
taken; those which appear shrivelled and black being dead, but such as remain fresh and plump are joined; and at this time, loosen the bandage, which, if not done in time, is apt to pinch the flock, and greatly injure, if not destroy the bud. The March following, every tree from the flock about three inches above the bud, flensing it that the outer may pass off, and not enter into the flock. To the part of the flock which is left, some often the shoot which proceeds from the bud, to prevent the danger of its being blown out, but this must continue no longer than one year; after which, it must be cut off close above the bud, that the flock may be covered over by it. Some advise it to be cut close off at first, which is probably the bell practice. But though it is the ordinary practice to divide the bud of that part of the wood which was taken from the shoot with it, yet in many sorts of tender trees, it is better to preserve a little wood to the buds, without which they often miscarry. The not observing this, has occasioned some to imagine, that some sorts of trees are not to be propagated by budding, which, if performed in this method, might have succeeded. Where this has been done, the whole effort of the flocks being directed to the infected buds, they soon push forth strongly, one shoot from each; many shoots also arise from the flocks, but these must be constantly rubbed off as often as they appear, that all the power of the flocks may be collected for the vigorous growth of the bud shoots, which now commence trees; and which, by the end of the summer, will, in some sorts, be advanced three or four feet in height. In the autumn or spring following, the young trees may be transplanted into the places where they are to remain, or remain longer in the nursery, according to the purpose for which they are designed. In trees that are designed for fruit on walls, espaliers, or as dwarfs, the first shoots from the buds should, in the spring after they are produced, be headed down to four or five eyes to force out some shoots near the bottom; but if designed for half or full standards, and budded at proper heights, the first shoots of the buds may either be shortened as above, to four or five eyes to provide lateral branches near the top of the stem, to form a spreading head, or be suffered to grow up in height, and branch out in their natural way, by which they will form more erect heads of loiter growth. Such half or full standards as are designed for walls, and were budded high on the flocks, must also necessarily have the first shoots headed down in the spring following, to force out lateral shoots to furnish the allotted space of walling; and on the other hand, where trees are designed for any sort of standards, and budded low on the flocks, the first shoots of the buds should be trained up for items to a proper height before they are flopped, and then topped to throw out shoots to form heads of the desired heights. See Isocula.

BUDDLE, in Mineralogy, a name given by the English dressers of the ores of metals, to a sort of frame made to receive the ore after it is refined from its grossfoulness.

The ore is first beaten to powder in wooden troughs, through which there runs a continual stream of water, which carries away much of it as is fine enough to pass a grating, which is placed at one end of the trough; this falls into a long square receiver of wood, called the launder; the heavy, vitell, and purest of the ore falls at the head of the launder, is separated out separately, and requires little more care or trouble; but the other part, which spreads over the middle and lower end of the launder, is thrown into the bud, which is a long square frame of boards, about four feet deep, six long, and three wide; in this there stands a man barefooted, with a trembling shovel in his hand, to call up the ore about an inch thick, upon a square board placed before him as high as his middle; this is termed the "buddle bud;" and the man dexterously, with one edge of his shovel, cuts and divides it longitudinally, with respect of himself, about half an inch in the middle of these little cuts; the water coming gently from the edge of an inner plate, plain board, carries away the slith and lighter part of the prepared ore flint, and then the metal part immediately after; all falling down in the buds where, with his bare feet, he stirs it and smooths it, that the water and other heterogeneous matter may then pass off from it.

When the budule by this means becomes full, the ore is taken out; that at the head, being the flint and purest, is taken out separate from the rest, as from the launder. The rest is again trampled in the same budule; but the head, or, as it is called, the forehead, of this budule, and of the launder, are mixed together, and carried to another budule, and trampled at will. The forehead of this last budule, is that part of the ore which has fallen at the head, is carried to what they call a drawing budule, whose difference from the rest is only this, that it has no tye, but only a plain floping board, on which it is once more walked with the trampling shovel. Tin-ore, when it is taken from this, is called black tin, and this is found to be completely ready for the blowing-houle. Phil. Trans. No. 60. See Dressing of Ore.


Gen. char. Cal. Periannum very small, four-cleft, acute, erect, permanent. *Cor. petal-lobed, bell or funnel-shaped, four-cleft, erect, longer than the calyx, segments ovate or oblate. Stam.* Filaments four, very short, inserted below the divisions of the corolla; anthers very short, filiform. *Pist.* Germ superior, ovate; stigma obtuse or bifid. *Ovul.* ovate, two-furrowed, two-celled, two-angled (each finally dividing into two, Joff. partition double, parallel to the valves, Gart.)


Species 1. B. *americana*. Linn. Brown. Jam. 144. Sloan. Jam. 139. Hill. 2. p. 29. T. 173. f. 1. "Leaves ovate, serrated; spikes panicled, terminal." La Marek. A shrub, nine or ten feet high. *Branches tomentose. Leaves opposite, acute, narrowing at their base into the petiole, green above, white beneath. Flores* yellow, small, bell-shaped, sessile on the common peduncles. Lam. A native of the West Indies, sent to Sir Hans Sloane from Jamaica by Dr. Houlton in 1731. 2. B. *occidentalis*. Lam. Phil. t. 210. f. 1. is referred to by Lamuxus, but La Marek thinks that that figure does not express any species of this genus. Gart. t. 4. j. 7. Lam. Illust. Pl. 69. f. 1. "Leaves lanceolate, acuminate, slightly serrated; spikes interrupted, somewhat panicled." Lam. It differs from the preceding in having longer, narrower, and less serrated leaves, white flowers, and interrupted spikes. Lam. Swartz doubts whether it be more than a variety. Miller, in addition to the distinctions mentioned above, La Marek, says that it has long, narrow, pear-shaped leaves between the spikes; whereas those of the former species are naked. Sent to Mr. Miller from Carthagena by Dr. Houlton. 3. B. *biformisfolia* Lam. Illust. "Leaves ovate-oblong, slightly scolloped, much

Propagation and culture. The americana, occidentalis, globosa, and falfifolia, are the only species which have hitherto been cultivated in Europe. The americana and occidentalis must be raised from seed fcent in their capsites from their native country, which should be sowed in small pots, and very lightly covered with rich, light earth. The pots should be plunged into a moderate hot-bed, and gently watered every third or fourth day. If the seeds are fresh and good, and in fown in the fpring, the plants will come up in about fix weeks, and may generally be transplantied in about two months after. They should then be planted separately in similar pots and earth, shaded from the sun, and occasionally watered. After they have taken root, they should have fresh air every day, according to the warmth of the fearon, and be moderately supplied with water. About the middle of August it will be proper to shift them into larger pots, and to turn over the tan in the bed, that the heat may be renewed. In the autumn they must be removed into the flove, where they must constantly remain plunged in the tan-bed. In the winter they should have little water, and must be kept warm; but in fummer they should have fresh air, and be frequently sprinkled all over with water. They will flower about the fourth year from the seeds.

The falfifolia and falviforia may be propagated by cuttings on an old hot-bed in July, covered with a bell glas, and shaded from the sun. In a month they may be planted in pots and, when the roots have taken fresh root, should be removed to a sheltered situation till the winter, when they must be preferred in the conservatory, or dry flove. The faloebus will flower well, and live through a mild winter out of doors in a warm fiftomer bed.

BUDDLING of calamine, denotes the operation of cleaning it from fift, by washing and picking it, preparatory to the baking it in the oven. Phil. Tranf. N° 198, p. 675. See CALAMINE.

BUDDLING-dish, a small, shallow vefsel, like the bacons of a pair of fcales, for the washing of ores of metals by the hand.

BUDDRA, in Geography, a river of the peninsula of India, which rives in the Myfone country, and joining the Toor near the county of Hooiy-Onore forms the Toombuddra river.

BUDDRINANT, or BADRENAUT, a town of Thibet, on the e aft fide of the river Alkumundes, or Alkundurra. N. lat. 32°, E. long. 80° 20′.

BUDDS VALLEY, a place in the county of Morris, in New Jersey, in America, foitate on the head waters of Rariton.
BUD

BUDEE river and bay, lie on the north coast of Cornwall, about S.S.W. and S. E. from Harland point, on the coast of Devonshire.

BUDA, or BUDAPEST, in Ancient Geography, a town of Magnesia. It was one of the appellations given to Minerva.

BUDILL (Ridgler), in Zoology, the water-dog: (Canis) variety aquatilis.

BUDILICH, in Geography, a town of Germany, in the circle of the Lower Rhine, and electorate of Treves; or by the French arrangement, in the department of the Sarre, and chief place of a canton, in the district of Treves, 11 miles E. of Treves; the town contains 195, and the canton 6506 inhabitants; and the territory comprises 24 communes, N. lat. 49° 52'. E. long. 6° 55'.

BUDELICH. See Bildich.

BUDESHEIM, a town of Germany, in the circle of the Lower Rhine, and electorate of Mentz; one mile E. of Bingen.

BUDETIN, a town of Hungary; 16 miles E. N. E. of Bolesko.

BUDGE, in Law. See Dupehe of court.

Budge-barrels, are small barrels well hooped, with only one head, the other end having nailed on it a piece of leather, to draw together upon firings, like a purse.

Budge-barrels are used for carrying powder along with a gun or mortar; as being least dangerous, and also rather than whole barrels. They are also used upon batteries of mortars, for holding meal-powder.

BUDGELL, Eustace, in Biography, the relation and friend of Addison, and an ingenious writer, was the son of Gilbert Budgell, D. D., of St. Thomas near Epsom, and was born about the year 1665. He was educated as a gentleman commoner at Christchurch College, Oxford, and afterwards entered at the Inner Temple, London, with a view to the profusion of the law. But an inclination to pleasure, and also to polite literature, diverted his attention from studies appropriate to the bar; and in 1706, he accompanied Addison to Ireland, as one of his clerks. By associating with persons of taste and fashion, and cultivating an acquaintance with the best writers, ancient and modern, he acquired the accomplishments of the gentleman and scholar. But though he was distinguished by a lively imagination, tenacious memory, pungent addressing, and graceful elocution, his unconformable vanity depreciated his other talents, and became a prominent feature of his character through life. His first exhibition as an author was in the Spectator; and the papers marked X in the first seven volumes are attributed to him. Of the eighth volume, it is said to have been wholly conducted by Addison and Budgell. Dr. Johnson, however, says that his papers were either written by Addison, or too much improved by him, as to be rendered in a manner his own; and, it is observed, that their style resemble that of Addison. The humorous and admired epigrams to the Dilated Mother, usually ascribed to Budgell, is also said to have been the composition of Addison. About this time, Budgell wrote several epigrams and songs, which, together with Addison’s fineacre letter to him, recommended him to general notice and esteem. But, notwithstanding his literary connections and engagements, and his accession to a family estate, encumbered indeed with debts, of about £500, a year, he was unremitting in his attention to the duties of his office. In the preface to the Guardian, he is represented as having a concern in that work, in connection with Addison and for Richard Steele; but his papers are not now discriminated. In 1714, he published a translation from the Greek, of “The Characters of Theophrastus,” which was commended by Addison, and which appears to have been executed with ingenuity and elegance. In this year, he was advanced to the offices of under secretary to the lord lieutenant, chief secretary to the lords judges of Ireland, and deputy clerk of the council in that kingdom. To which was added the honour of a seat in the Irish parliament, where he distinguished himself as a speaker. When the rebellion broke out in 1715, he was entangled with the charge of transporting troops to Scotland, which he executed in a manner equally safe and disinterested. In the beginning of the year 1717, when Addison became secretary of state, he was promoted, under his patronage, to the office of accomptant, and comptroller general of Ireland. But this tide of prosperity took an unfavourable turn soon after this latter appointment, when the duke of Bolton was appointed to the vice-royalty. When the duke’s secretary insisted on quartering upon him a friend, his indignation was at once; and he attacked both the secretary and the lord lieutenant in a virulent lampoon, which he published against the advice and remonstrance of Addison, and which caused him to be deprived of his place as comptant. Upon his return to England, he determined, in opposition to the counsel of his best friends, to publish his book, and, by this second act of indiscipline, he increased the resentment of his enemies. By a popular pamphlet written in 1719 against the famous peacogue bill, he incensed the earl of Sunderland and, at this time, the death of Addison, his steady friend and faithful counsellor, terminated all his expectations from the court. His circumstances, however, were easy and affluent, and he might have lived with dignity and independence. But seduced by the inflation of the fatal year 1720, he embarked in the South Sea scheme, and lost 26,000l. Having taken an active part in the concerns and debates of the company, and published pamphlets on the occasion, that were well received, he attracted the notice of the duke of Portland, who had been a sufferer in this bubble as well as himself: and he was taken under his special patronage, with the promise of accompanying him as his secretary to Jamaica, of which island he was appointed governor. But the impracticable remittance of the court frustrated his expectations, for the duke was expressly forbidden to take him out as his secretary. This cruel treatment irritated his temper; and with a view of giving importance to his opposition, he spent nearly 5,000l. in various unsuccessful efforts for obtaining a seat in parliament; and he was aided by the duchess of Marlborough in 1727 with the sum of 1200l. for this purpose. His attempts failed; his affairs of course became deranged; and he involved himself in a variety of quarrels and law-suits, which entailed upon him disreputable disgrace and embittered the close of his life. In 1732, he published an historical work, entitled “Memoirs of the Life and Character of the late Earl of Orrery, and of the Family of the Boyles,” which, whatever valuable information it may contain, does not bear the character of impartiality. It is needless to mention his other publications, which, though well received, are now forgotten, or to add that he contributed several papers to the “Crafficman,” and that he established a weekly pamphlet called the “Bee,” which had no long duration. His reputation was sunk very low; and a circumstance occurred which totally ruined it. On the death of Dr. Matthew Tindal, the author of “Christianity as old as the Creation,” in the publication of which he was thought to have had some concern; a bequest to Budgell of 200l. appeared in his will. This legacy, so disproportionate to Tindall’s circumstances, so injurious to his nephew, the Rev. Nicholas Tindall, the translator of Rapin, and so contrary to his known
known intentions and conduct, surprized those who heard of it, and excited a suspicion of unfair dealing, very reproachful to Budgell. The will was contested and set aside. To this transfaction, Pope, who has introduced Budgell into the Dunciad, and satirized him in several parts of his works, evidently alludes in one of his epistles:

"Let Budgell change low Grub Street on my quill,
And write whate'er he pleaseth except my will."

At length, this unfortunate man, unable to struggle any longer with his embarrassed circumstances and indelible disgrace, adopted the resolution, strengthened by the pride of his temper, and his disbelief of revelation, to put an end to his life; and, on May 4th, 1737, he took a boat at Somerset Flats, and having ordered the waterman to float the bridge, he threw himself overboard, with stones in his pockets, and immediately sunk. He had previously attempted to procure a natural daughter to share his fate; but the, preferring a continued life to this shocking mode of terminating it, became afterwards an actor at Drury Lane theatre. On the bureau of Budgell was found a slip of paper, on which were written these words:

"What Cato did, and Addison approved,
Cannot be wrong."

But this charge against Addison is wholly groundless; for he attempted to obviate the ill effects that might be supposed to arise from Cato's example by a dying disapprobation of his own conduct. Biog. Brit.

BUDGERONKS, in Geography. See BOSERONKS.

BUDGEROWS, in Sea Language. See Bosseroons.

BUDINUM, in Geography. See BUDINANS.

BUDISSEN, in Geography. See BUDYSEN.

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transmigration, from the lowest rate of an insect, through the various species of living animals. There have been three deeds of this name, each of which is supposed to reign as long as a bird removes a hill of sand, half a mile high, and six miles round, by a single grain in a thousand years. See So owner; see also Boodh.

BUDWEIS, or Budegowice, in Geography, a royal and well fortified city of Bohemia, in the circle of Bcehin, seated on the river Moldaw, enjoying the sheep-lands of salt, and having in its vicinity mines of gold and silver; and, as it is said, pearls, which are fished for in the river Moldaw. It was erected into a bishopric by the emperor, in 1787. The king of Prussia laid siege to it with 8000 men, under general Nassau in 1774, and took it; but did not long retain it; 66 miles S. of Prague. N. lat. 43° 15'. E. long. 14° 19'.

BUDWIZ, a town of Moravia, in the circle of Znayn; 84 miles S. E. of Prague.

BUDZADGIH, a town of Asiatic Turkey, in the province of Natalia; 40 miles N. E. of Ilnick.

BUDZIAC Tartary. See Bessarabia.

BUDZIENICE, or Budzenico, a town of Lithuania, in the palatinate of Minsk; 56 miles W. of Rohaczow. N. lat. 53° 30'. E. long. 28° 20'.

BUECH, a town of France, which runs into the Durance, near Silletron, in the department of the Lower Alps.

BUEIB, a town or village of Egypt, called the "Straits," seated on a mountain in the road of the pilgrims; 30 miles N. E. of Cairo.

BUEIB, called the "Narrows," a town or village of Upper Egypt, seated on the west side of the Nile; 32 miles S. E. of Aafa or Efbel.

BUELA, a town of Persia, in the province of Koraffan; about 313 miles N. W. of Herat. N. lat. 37° 40'. E. long. 57° 2'.

BUEJAYRE. See Bonaire.

BUENA-VISTA. See Bonavista.

BUENE-VENTURA. See Bonaventure.

BUENOS AIRES, so called on account of the peculiar fulness of its climate, a Spanish territory or vice-royalty of South America, established as such in 1776, is reckoned by Ulloa the fifth bishopric belonging to the archdeacon of Charcas. This name comprehends the whole country from the eastern and southern coast of that part of America, to Cordova and Tucuman on the west, to Paraguay on the north, and on the south to the sea and the Terra Magellonica or Patagonia, the vertex of that triangular point of land which forms South America. This country is watered by the great river La Plata, first discovered in 1515, by Juan Diaz de Solis, who, with his two attendants, was massacred by the natives; and partly subdued, in 1526, by Sebastian Gabot. Buenos Aires abounds with horned cattle and wild horses, which find a shelter from the heat of the sun, and an ample supply of food in the immense plain, called by the Spaniards "Pampas," which commences about 20 miles from the capital, and extends 100 miles westward to the foot of the mountains, and about 500 miles southward towards Chili. This plain is wholly covered with very high grass, and is for the most part uninhabited and defitute of trees. From the travels of Helms we learn, that the largest tamed ox is sold for one piastre, or about 36. 6d., and that a good horse may be purchased for two piastres. The hides of these animals constitute a principal article of trade in this country. The rivers and sea supply all kinds of fish; the country abounds with game; and fruits of every quarter of the globe grow here in the utmost perfection; so that with regard to the fulness of the air and the various enjoyments of life, a finer country cannot be imagined. Although the climate is healthy and pleasant, there is a great difference in the seasons. In the summer the air is serene, and the exceutive heat of the sun is moderated by breezes which blow every morning. In the winter storms often occur, with rain and dreadful lightning and thunder. The capital of this country is Buenos Ayres, and within its government are three other cities, viz. Santa Fe, Las Corrientes, and Monte-video.

BUENOS AIRES, Nuestra Senora de, the capital of the country of the same name, and of the kingdom of La Plata, was founded by Don Pedro de Mendoza in 1535, who was at that time governor, on a spot called Cape Blanco, on the south side of Rio de la Plata, adjoining to a small river; from which the plain on which it stands, ascends gently. Soon after its first establishment, it was abandoned; but rebuilt in 1582, and erected into a bishopric in 1620. It is said to contain about 4000 houses, and from 24 to 30 thousand inhabitants, who are chiefly Spaniards and native Americans. It is well fortified and defended by a numerous artillery. Although the breadth of the city, like many towns situated on rivers, is not proportioned to its length, its streets are straight and of a proper width. The principal square is very large, and built near the small river; and in the front of it is a castle, where the governor customarily resides. The houses, which were formerly constructed with mud-walls, thatched with straw, and very low, are now much improved; some being built with chalk, and others with brick, most of them tiled, and having one story besides the ground floor. The cathedral, which is the parish church for the greater number of the inhabitants, is a spacious and elegant structure; and the chapter is composed of the bishop, dean, archdeacon, and two canons. At the farther end of the city is another archway appropriated to the Indians. Here are also several convents, and a royal chapel in the castle where the governor resides. This is the great resort of the merchants of Europe and Peru, who travel the country from hence by Cordova and Tucuman to Poto; and for the accommodation of travellers there is an uninterrupted post-road, with post-horses and proper relays of horses and carriages across the continent to Peru. In the spring the whole intercourse with Europe being carried on by 2 or 3 regilier ships. The returns are chiefly gold and silver of Chili and Peru, sugar, and hides. The contraband trade, however, has been found the most advantageous; and this has been principally carried on by the Portuguese, who keep magazines for that purpose in those parts of Brazil which lie nearest to this country. The most valuable commodities are brought here to be exchanged for European goods, such as the Vicuna wool from Peru, copper from Coquimbo, gold from Chili, and silver from Poto. From Corrientes and Paraguay are conveyed hither tobacco, sugar, cotton, thread, yellow wax, and cotton cloth; and from Paraguay, the herb so called and so highly valued for tea, which is drank every where in South America by the higher classes, and which supplies a branch of trade, amounting, as it is said, to a million of pieces of eight annually, wholly paid in goods, as no money is allowed to pass here. The commerce between Peru and Buenos Ayres is chiefly for cattle and mules, to an inmemorial value. This city is situated about 77 leagues from Cape Santa Maria, which lies on the north coast near the entrance of the river de la Plata; and its little river not having water sufficient for ships of burden to come up to it, they anchor in one of the two bays on the same coast. That farthest to the eastward is called Maldo- nado, 9 leagues from the above cape, and the other named Monte-video from a mountain near it, and distant 20 leagues from the said cape. The navigation to the city is dangerous.
BUFFALOE, a lake of North America, situated near Copper-mine river, in the country of the Copper Indians. N. lat. 66°.—Also a lake of North America, which receives the Beaver river, about 25 miles long, and from 2 to 10 wide. N. lat. 55° 55'. W. long. 109° 55'.

BUFFALOE Lick. See Great Ridge.

BUFFALOE Loealnda, a tract of land, in Northumberland county, Pennsylvania, about 88 miles S. E. from Presque Ile.

BUFFALO'S Bay, lies within the point of the cape of Good Hope, across which from point to point is a ledge of rocks continuing northward to the south point of the entrance into Simon's bay, on the west side of False bay.

BUFFALO'S Point, lies above Rongafoula river, on the approach to Hugly river in Bengal, about half way in the right between Jefore and Culpe rivers. Ships stop here which do not venture higher up into the Hugly river.

BUFFAROLO, a town of Italy, in the Milanci; 17 miles W. of Milan.

BUFFEL, Buffelus, Buffel. See Dos Bubales.

BUFFET, or Beauget, was an anciently a small apartment or cell, separated from the rest of the room by means of slender wooden pillars, in which were deposited china, glassware, &c. It was sometimes called a cabinet. The term has since been sometimes applied to a large table, more usually called a "side-board," furnished with drawers, and serving either for convenience or show, to receive plate, bottles, vases, glasses, &c. In France, among persons of distinction, the buffet is a detached room, decorated with pictures, exhibiting fountains, cisterns, and vases, and commonly faced with marble or bronze. Among the Italians, the buffet, called "credenza," is inclosed within a buffet-case as high as the elbow.

BUFFETTO, in Geography, a town of Switzerland, in the Valteline, seated on the north side of the river Adda. N. lat. 46° 5' E. long. 9° 50'.

BUFFIER, Claude, in Biography, an ingenious writer, was born of French parents, in Poland, in 1661, and educated at Rouen. He entered among the Jesuits at Paris in 1679, and afterwards fixed his residence at the college of the Jesuits in that city. Besides his engagements with the compilers of the Memoirs de Trevoux, he wrote a great variety of works, some of which have been much esteemed. But his most celebrated performance is his "Traité de premiers Verités, &c.," or treatise of first truths, and of the sources of our judgments; in which the opinions of philosophers on the first notions of things are examined; Paris, 1724, 12mo. The principles of this work are the same with those adopted and expanded in the writings of Drs. Reid, Ofwald, and Beattie, under the denomination of Common Sense. His "Elements of Metaphysics, made intelligible to all Readers," 1735, 12mo. is a work formed upon the same plan. He was also the author of a "French Grammar upon a new Plan," which was well received. His principal works have been collected and published under the title of "Cours des Sciences, fur des Principes nouveaux et simples, &c.," or a course of sciences on new and simple principles, for the purpose of forming the language, the understanding, and the heart, in the ordinary commerce of life, 1732, fol. This laborious and useful writer died in 1737. Nouv. Dict. Hift.

BUFFELS, or Buff, in Geography, an island of Africa, on the south coast of Benin, in the mouth of the river Camarons, or Camonars.

BUFFON, George-Louis Le Clerc, Comte de, in Biography, an eminent naturalist and writer, was the son of a counsellor of the parliament of Dijon, and born at Montbardin Bur-
BUFF

On this day, September the 7th, 1707. He manifested an early inclination to the sciences, which diverted him from pursuing the profession of law, to which his first studies at Dijon were devoted, and for which his father had designed him. The science which seems to have engaged his earliest attachment was astronomy; with a view to which he applied with such ardour to the study of geometry, that he always carried in his pocket the elements of Euclid. At the age of 20, he travelled into Italy, and in the course of his tour he directed his attention to the phenomena of nature more than to the productions of art; and at this early period he was also ambitious of acquiring the art of writing with ease and elegance. In 1728 he succeeded to the estate of his mother, estimated at about 12,000l. a year, which, by rendering his circumstances affluent and independent, enabled him to indulge his taste in those scientific researches and literary pursuits, to which his future life was devoted. Having concluded his travels, at the age of 25, with a journey to England, he afterwards resided partly at Paris, where, in 1739, he was appointed Superintendent of the royal garden and cabinet, and partly on his estate at Montbard. Although he was fond of society, and by no means insensible to the attractions of the fair sex, he was indefatigable in his application, and is said to have employed 14 hours every day in study. We learn from the biographical anecdotes relating to him, collected by Herculane de Sechelles, and published in Petiti's "Paris, pendant l'Année 1795; et l'Année 1796," that he would sometimes return from the supper at Paris at two in the morning, when he was young, and order a boy to call him at five; and if he lingered in bed, to drag him out on the floor. At this early hour it was his custom, at Montbard, to dress, powder, dictate letters, and regulate his domestic concerns. At five he retired to his study, which was a pavilion called the tower of St. Louis, about a furlong from the house, at the extremity of the garden, and which was accommodated only with an ordinary wooden desk and an arm chair. Within this was another sanctuary, denominated by prince Henry of Prussia "the Cradle of Natural History," in which he was accustomed to compose. On this retreat no one was suffered to intrude. At nine his breakfast, which consisted of two glasses of wine and a bit of bread, was brought to his study; and after breakfast he wrote for about two hours, and then returned to his house. At dinner he indulged himself in all the gaieties and trifles which occurred at table, and in a freedom of conversation, which obliged the ladies to withdraw. When dinner was finished, he paid little attention either to his family or guests; but having slept about an hour in his room, he took a solitary walk, and then he would either converse with his friends or sit at his desk, examining papers that were submitted to his judgment. This kind of life he pursued for 50 years; and to one who expressed his astonishment at his great reputation, he replied, "Have not I spent fifty years at my desk?" At nine he retired to bed. In this course he prolonged his life, notwithstanding excruciating sufferings occasioned by the gravel and stone, which bore with singular fortitude and patience, to his 81st year; and retained his senses till within a few hours of his dissolution, which happened on the 16th of April, 1788. His body was embalmed, and presented first at St. Médard's church, and afterwards conveyed to Montbard, where he had given orders in his will to be interred in the same vault with his wife. His funeral was attended by a great concourse of academicians, and persons of rank and literary distinction, and a crowd of at least 20,000 spectators assembled in the streets through which the hearse was to pass. When his body was opened, 57 flutes were found in his bladder, some of which were a large as a small bean; and of these 37 were crystallized in a triangular form, weighing altogether 2 ounces and 6 drams. All his other parts were perfectly found; his brain was found to be larger than the ordinary size; and it was the opinion of the gentlemen of the faculty who examined the body, that the operation of lithotomy might have been performed without the least danger; but to this mode of relief M. Buffon had invincible objections. He left one son, who fell a victim to the atrocities under Robespierre. This son had erected a monument to his father in the gardens of Montbard; which consisted of a simple column, with this inscription:

"Excellens turris humilis columna Parenti suo filius Buffon, 1785."

The father, upon seeing this monument, burst into tears, and said to the young man, "Son, this will do you honour."

Buffon was a member of the French Academy, and perpetual treasurer of the Academy of Sciences. With a view to the preservation of his tranquility, he wisely avoided the intrigues and parties that disgracefully occupied most of the French literati in his time; nor did he ever reply to the attacks that were made upon his works. In 1771 his estate was erected into a comte; and thus the decoration of rank, to which he was by no means indifferent, was annexed to the superior dignity he had acquired as one of the most distinguished members of the republic of letters.

Before we give an account of his works, we shall mention a few particulars relating to his person and character. His figure was noble and manly, and his countenance, even in advanced age, and notwithstanding excruciating pains, which deprived him of sleep sometimes for 16 successive nights, was calm and placid, and exhibited traces of singular intelligence. Vanity, however, which seemed to have been his predominant passion, extended even to his person and to all its exterior ornaments. He was particularly fond of having his hair neatly dressed, and for this purpose he employed the friseur, in old age, twice or thrice a day. To his dress he was peculiarly attentive; and took pleasure in appearing on Sundays before the peanerty of Montbard in laced clothes. At table he indulged in indecencies and licentious pleasantry, and he was fond of hearing every goffeping tale which his attendants could relate. In his general intercourse with females he was as lax and unguarded as in his conversation. During the life of his wife, he was chargeable with frequent infidelities; and he proceeded to the very unwarrantable extreme of debauching young women, and even of employing means to procure abortion. His confidence, in the latter period of his life, was almost wholly engrossed by mademoiselle Bleflein, who lived with him for many years. His vanity betrayed itself on a variety of occasions in relation to his literary performances. These were often the subjects of his discourse, and even of his commendation. When he was recommending the perusal of capital works in every department of taste and science, he added, with singular pretension and self-confidence; "Capital works are scarce; I know but five great geniuses—Newton, Bacon, Leibnitz, Montesquieu, and myself." He was in the habit of reciting to those who visited him whole pages of his compositions, for he seemed to know them almost all by heart; but notwithstanding his vanity, he listened to objections, entered into a discussion of them, and far exceeded his own opinion to that of others, when his judgment was convinced. He expressed himself with the utmost respect and the pleasures accruing from study; and he declared his preference of the writings to the conversations of learned men, which almost always disappointed him; and therefore he voluntarily secluded himself from society with such, and in company was fond of trifling. He maintained, however, an extensive correspondence with several

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several persons of rank and eminence; and particularly with prince Henry of Prussia, and with the late emperors of Russia, who ably criticized some of his opinions, and favored with great zeal in her dominions his researches in natural history. Of his literary vanity he gave evidence early towards the close of life; alleging that he feared not death, and that the hope of immortal renown was the most powerful of death-bed confessions. He took great pains in forming the style of his writings; and as composition was to him a difficult task, he repeatedly revised his works before he published them. Such was his attention to style, that he could not bear the least deviation from accuracy and propriety in the use of language.

"The style," said he, "is the man; our poets have no style; they are coerced by the rules of metre, which makes flavour of them." To this circumstance it was owing that he abandoned poetry which he attempted in his youth, and restricted himself to prose. "Two things," says he, "form style, invention and expression. Invention depends on patience; contemplate your subject long; it will gradually unroll and unfold—till a sort of electric spark convulses for a moment the brain, and spreads down to the very heart a glow of irritation. Then are come the luxuries of genius, the true hours for production and composition—hours so delightful, that I have spent 12 and 14 successively at my writing-desk, and still been in a state of pleasure. It is for this gratification, yet more than for glory, that I have toiled. Glory comes if it can, and mostly does come. This pleasure is greater if you consult no books; I have never consulted authors, till I had nothing left to lay off my own." Such was his regard to fame, that he destroyed every paper which he thought useless or unfinished; and thus preferred his reputation from being malfeaced by posthumous publications.

Of the free sentiments which he had imbibed with regard to religion, his works afford ample evidence. They sufficiently indicate his attachment to the system of materialism. "Religion," said he to one who was reading to him verses on the immortality of the soul, "would be a noble pretext, if all that were true." Notwithstanding the licentiousness of his religious opinions, as well as of his moral conduct, he conformed to the external ritual of religion, adding, as some will say, hypocrisy to his impurity; when he was at Montbard, he received the annual communion in his seigniorial chapel, attended high masses every Sunday, and distributed a louis weekly among different descriptions of pious beggars. "There must," he said, "be a religion for the multitude; and we should avoid giving offence." "I have always," he added, in conversation with a friend, "named the Creator; but it is only putting, mentally, in its place, the energy of nature, which results from the two great laws of attraction and impulse. When the Sorbonne plagued me, I gave all the satisfaction which they solicited; it was a form which I despised, but men are fally enough to be satisfied. For the same reason, when I fall dangerously ill, I shall not hesitate to fend for the sacraments. This is due to the public religion. Those who act otherwise are madmen." Thus, as he boasted, he avoided scoring the mischievous attacks which Voltaire, Diderot, Helvetius, and others had made upon religion, whilst, by the avowal of such licentious sentiments in conversation, and by the opinions circulated in his writings, he was perpetually lapping its foundations, and counteracting every obligation of truth and integrity. But let us direct our attention from the principles and character of Buffon, which have been sufficiently developed, and which no reflecting person can contemplate without disgust, to his works. In this view of him he appears with much greater advantage. His first publication was a translation from the English of "Hales's Vegetable Statics," in 1735; which was followed in 1740 by a translation from the Latin of "Newton's Fluxions." His "Theory of the Earth" was first published in 1744, which was included in his most comprehensive and celebrated work entitled "Natural History, general and particular," which commenced in 1749, and at its completion in 1762, extended to 15 vols. 4to, or 31 vols. 12mo. Supplements were afterwards added, amounting to several more volumes. In the anatomical part the author was aided by M. d'Aubenton; but in all the other parts Buffon himself displays his learning, genius, and eloquence, and he also indulges his fancy, in exploring and delineating the whole economy of nature. He begins with a theory of the earth, which, as well as the other planets, he supposed to have been originally a mass of liquefied matter, dashed out of the body of the sun by the violent siege of a comet. He then covers it with ocean, from which he forms istra by deposition, and mountains by the flux and reflux of the tide. Subterraneous fires, eruptions, and earthquakes, produce other changes; and the world we now inhabit is but the ruins of a former world. For a more particular account and examination of his theory, see Earth and Planets. In his account of the population of the earth with living creatures, he investigates the analogies between vegetable and animal life; and in explaining the mystery of animal generation, he allows ample range to his imagination in a variety of hypotheses and conjectures. He conceives certain "living organic molecules," of the same nature with organized beings, to exist equally in animal and vegetable matter; and, in the processes of nutrition, to be received into "internal moulds," of which animal and vegetable bodies are formed, where they are assimilated into the same substance as the parts to which they are transmitted, and thus nourish them. When this nutritive matter superabounds, it is detached from all parts of the body, and deposited in a fluid form in one or more reservoirs. This constitutes a prolific matter, which is ready for producing a new animal or vegetable, of the same species, when it meets with a proper matrix. The supposed seminal animalculae are only these organic particles, which are similar in both sexes, but must unite in order to produce a new animal by the processes of generation. See Generation. Buffon's natural history of animals commences with that of man; whom he traces from the cradle to the grave, through the development and maturation of his bodily organs and mental powers, the nature and operation of his senses, and the several varieties of his species, introducing and intermixing in the research many curious disquisitions. He then investigates and unfolds the nature of brute animals in general; and marks the distinction between them and men, by denying them a soul, and a memory, properly so called, and making all their actions to spring from external impressions. The class of quadrupeds occupies the whole remainder of this first work. To his history of quadrupeds he added, in 1776, a supplementary volume, which, besides an ingenious dissection on mules, contains the history and figures of several new animals, and valuable additions to most of those described in the original publication. Disdaining the arrangements of systematic naturalists, he has rejected all the received principles of classification, and has thrown his subjects into groups, laxly formed from general points of resemblance. Not content with deviating from established modes of distribution, he ridicules the authors of systematic arrangements, and particularly the late ingenious and indefatigable Linnaeus, whose zeal and labours in investigating and clasping natural objects entitle him to the highest applause. It is hardly necessary to remark, that he has adapted his style to the particular subjects of his discussion. While the mere enumeration of facts, or descriptions of the figure, dimensions, and colour of animals,
BUFFON.

mals, admit of no other ornament than that of pernicuity; topics of philosophy and argument require a higher and more figurative expression; and address to the passions and finer feelings of men, allow full scope to the exercise of genius and of taste. Of these different species of writing, the works of Buffon afford numerous examples. It has been observed, however, that his style occasionally rises above the level of his subject; and this is particularly the case, when he is painting in glowing colours the manners and habits of the lion, the hare, the elephant, and others of his favourite subjects. By the indulgence of this passion for high painting, he has been betrayed into a deviation from the limits of simple truth, and has been led to wander into the regions of fancy. In particular and minute observation he excels, and by his indefatigable researches, he has added a very copious addition to the treasure of authenticated facts. In some cases he has been milled by an undue attachment to theory, as well as by the ambition of disfiguring eloquence. "On various topics," says a judicious biographer, "he had formed general theorems, which he was inclined to support against exceptions by denying or neglecting the instances produced on the other side. Further, he not unfrequently gives the mere inferences from his opinions as if they were known and tried facts, thus dangerously confounding hypothesis with that experience which is the only true basis of all natural knowledge. He often attributes more to the operation of certain causes, such as change of climate, domestication, and the like, than sober reason can warrant; and, even, according to the tenor of his argument, sometimes ascribes opposite effects to the very same cause. These blemishes materially leaven the confidence with which his work can be used as authority, and later inquirers are continually detecting errors in his statements. Yet the great masts of matter will probably always remain unimpeached; and certainly no writer has ever done so much to render natural history entertaining, and to elevate its rank among the objects on which the human intellect is employed. In one point, however, he will by many be thought to have derogated from the true dignity and value of his subject. He is everywhere the enemy of the doctrine of final causes, and substitutes, to a designing and benevolent author, the fortuitous operations of a certain unconscious "Nature," which as often exhibits examples of blunder and defect, as of skilful and happy contrivance." "Studiously to overlook to be beautiful a part of the economy of things, as the adaptation of means to ends, is surely as inconsistent with the philosophical as the religious spirit," which may, possibly, in some instances, have betrayed him into error. This "fault is aggravated in Buffon by the pleasure he occasionally takes in declaiming upon the defects of nature, in a strain which would seem to impute malignity of intention to the Author of being, and which he appears to have derived from the shallow philosophy of his predecessor, Pliny. The moral reader of Buffon will likewise he frequently offended with the grossnafs of his descriptions in all points relative to sex: in which he not only indulges in an anatomical plenitude of language, but, what is much worse, adopts a studied feminallin, the object of which is to exalt the value of sexual gratifications, and make a propensity to them one of the indications of nobleness of nature."

After the completion of his history of quadrupeds in 1767, Buffon was interrupted in the progress of his labours by a severe and tedious indisposition; and therefore the two first volumes of his "History of Birds" did not appear till the year 1771. In the composition of the greatest part of these he was indebted to the labours of M. Gueneau de Montbel-

lard, who adhered so closely to Buffon's mode of thinking and of expression, that the public could not perceive any difference. The four subsequent volumes were the joint production of both writers; and each author prefixed his name to his own articles. The three remaining volumes were written by Buffon himself, with the assistance of the abbe Berton, who formed the nomenclature, drew up most of the descriptions, and communicated several important hints. The work was completed in 1783, but on account of the much greater number of species of birds than of quadrupeds, the want of systematic arrangement is more to be regretted in this than in the other history. A translation of Buffon's "Natural History," by Mr. Smellie of Edinburgh, completed in 8 vols. 8vo. was published in 1781, to which a 9th volume was added in 1786, containing a translation of a supplementary volume of Buffon, and confuting chiefly of curious and interesting facts with regard to the history of the earth. The translator has omitted the anatomical dissections and menurations of M. D'Aubenton, which greatly enhanced the bulk, as well as the price of the original, and which the author himself had omitted in the last Paris edition of his performance. There are likewise some other omissions, which are not very important; respecting the method of studying natural history, methodical distributions, and the mode of describing animals. These omissions have been amply compensated by the translator's addition of short distinctive descriptions to each species of quadrupeds, of the figures of several new animals, and of the synonyma, as well as the generic and specific characters given by Linnæus, Klein, Buffon, and other naturalists, together with occasional notes. A translation of Buffon's "History of Birds," in 9 vols. 8vo. with notes and additions, was also published by Mr. Smellie in 1793.

In 1774, Buffon began to publish a "Supplement" to his "Natural History," constituting the "History of Minerals." The first volume contains an account of his burning glass, for which, see that article. These supplemental volumes, of which the 5th, in 4to, appeared in 1778, contain many curious and valuable experiments, as well as much theory; too lax for the rigour of modern science. The concluding volume may be considered as a kind of philosophical romance. It comprehends what the author fancifully denominates the "Epochas of Nature," or those great changes in the state of the earth which he supposes to have successively resulted from his hypothesis of its original formation out of the sun. Of these epochas he enumerates seven, of which six are supposed to have been previous to the creation of man. In the description of these epochas, as to both their causes and effects, the author has indulged the spirit of fancy, and formed a sort of fairy tale, which he has contrived to render amusing and instructive. Such as we have recounted are the principal works of this great author, which have been collected and published in 35 vols. 4to. and 62 vols. 12mo.; and of the whole or parts of which new editions occasionally appear. After he had completed his "History of Minerals," he had formed a design of composing the "History of Vegetables:" but this project was defeated by his death. Several of the subjects that occur in his "Natural History," and its supplements, have been discussed in separate memoirs, and may be found in the Memoirs of the Royal Academy of Sciences at Paris, for the years 1737, 1738, 1739, 1741, and 1742. Some account of them will be found in different articles of this dictionary. See particularly Accidental Colours, Heat, Magnetism, Timbre, &c. Nouv. Dict. Hilt. Encyclopédie Phylique, tom. i. Lett. de Herztul Sechelles, ubi supra. Smellie's Translations. Gen. Biog. 

BUFFONI, in Ornithology, a species of Falco, called by Latham
Latham the Cayenne ring-tail, as being an inhabitant of that part of the world. It is specifically distinguished, by having the core blue; legs yellow; body about dark brown, beneath reddish-buff; eye-brown yellow; tail faciated with pale, and dullly brown, Gmel. &c. Length of this bird two feet.

BUFFON, a droll, or mimic, who diverts the public by his puerilities and follies. Mem. after Salmasius, derives the word from bufio; a name given to those who appeared on the Roman theatre with their checks blown up; that, receiving blows thereon, they might make the greater noise, and fat the people a laughing. Others, as Rhodius, make the origin of buffoonery more venerable; deriving it from a feast instituted in Attica, by K. Erichthius, called BUPHONIA.

BUFFOONs are the name with what we otherwise find denominated fucers, gelasini, nimboleti, minifleti, guliardi, juculatores, &c. whose chief scene is laid at the tables of great men. Gallinus never sat down to meat without a second table of buffoons by him. Tillemon also renders FANTOMINES by buffoons; in which fucis he observes, the flowers of their buffoons were taken away by Domitian, restored by Nero, and finally abolished by Trajan. Crevier's Hist. of the Emperors, vol. vii. p. 45.

BUFFY COAT, or size of the blood, in Medic. See Blood, appearances of.

BUFFO, in Entomology, a species of Bombyx, that inhabits Germany. The wings are yellowish, with a broad brown band, and yellow spots. Fabr.

BUFFO, a species of CURCULIO, that inhabits Siberia. The colour is yellowous; wing-cases slightly reticulated, with a white stripe in the middle. Fabr.

BUFFO, in Zoology, the specific name of the common toad, rana bufo of Linneus, and other Latin writers. Gmelin adopts the concise description of the Linnaean Fauna suaves, "corpori lirido fulvoque," for this species. But, besides the body of the toad being lirid and fuscous, the back is marked with tubercles, which ought likewise to be distinctly noticed in its specific character. The description given of it by Roevel it is not amiss, "Bufo terrestris, dorso tuberculis exasperato, oculis rubris." Hiët. Rana.

Authors make three or four varieties of the common toad. The var. Arabs of Gmelin, is Bufo calamita of Laurentii; the back of this kind is olivaceous with an unequal, clear, yellowish-red, band down each side. 7, another variety, Laurentii describes under the name of Bufo viridis, the body being marked with confluent green spots, and warts; those warts which rise within the area of the green spots are of the same colour, while the rest, which are situated in the spaces between them, are red, upon a bicolloured ground. 8. Bufo olidriticae of Laurentii is distinguished by being of a smaller size than either of the preceding. In Act. Paris. 1741, this last variety is described under the title of Bufo terrestris minor. Independently of which, may be considered as permanent varieties of the common toad, it should be observed, that different individuals exhibit a great diversity in their general colours, markings, the size of the dorsal tubercles, and other particulars. The olivaceous hues with darker variations prevail most commonly. In the early part of summer they are sometimes found with the shoulders and limbs marked with reddish spots, and the under parts of the limbs and body tinged with yellow.

The toad, lays an ingenious writer, is the most deformed and hideous of all animals: the body is broad, the back flat, and covered with a pimply dulky hide, the belly large, swelling, and swelling out, the legs short, and its pace laborious and crawling; its retreat gloomy and filthy: in short, its general appearance is such as to strike one with disgust and horror. Yet it is said by those who have resolution to view it with attention, that its eyes are fine; to this it occurs that Shakespeare alludes, when he makes his Juliet remark, "Some say the lark and boated toad change eyes," as if they would have been better bestowed on so charming a fagonier, than on this ravenous animal. Pennant. The eyes are uncommonly beautiful, being surrounded by a reddish gold coloured iris, and the pupil, when in a state of contraction, appearing transverse.

Rana bufo and its varieties appear to be confined exclusively to the European continent. It inhabits woods, gardens, fields, and damp shady places, and frequently makes its way into cellars, or any obscure recesses in which it may occasionally conceal itself; and where it may find a supply of food, or a security from too great a degree of cold. In the early part of spring, like others of this genus, it retires to the waters, where it continues during the breeding season, and deposits its ova or spawn in the form of double necklace-like chains or frings, of beautifully transparent glutton, and of the length of three or four feet, in each of which are disposed the ova in a continued double series throughout the whole length, having the appearance of too many small jet-black globules or beads. These globules are, in reality, no other than the tadpoles, or large convolutions into a globular form, and waiting for the period of their evolution, or hatching, which takes place in the space of about fourteen or fifteen days, when they break from the surrounding glutens, and, like the tadpoles of frogs, swim about in the water, and are nourished by various animaliacs, glutton, leaves of aquatic plants, &c. When these have arrived at their full growth, the legs are formed, the tail gradually becomes obliterared, and the animals leave the water, and betake themselves to the surface of the ground. This generally happens early in the autumn.

The time of their propagation is very early in the spring; at which season the females are seen crawling about oppressed by the males, who continue on for hours, and adhere so fast as to tear the skin from the parts to which they stick. The number of females appears to be greatly disproportionate to that of the males in general. It is ascertained by Mr. Arlott, a gentleman of Devonshire, who favoured Mr. Pennant with a circumstantial account of a favourite toad kept for nearly forty years in his houfe, and a curious history of the toads, that he has commonly known thirty males to one female: twelve or fourteen of the former he has seen clinging round a single female at one time. But this is even far less remarkable than the observation of the late Mr. John Hunter, who assiduously Mr. Pennant, that during his residence at Belleisle, he had diffected some hundreds of toads, and yet never met with a single female amongst them.

That the female toad receives the obleretical assistance of the male on some occasions is a fact established on the best authority. Mr. Demours, in particular, has given a full and accurate account of such a circumstance in the Memoirs of the French Academy, that deserves attention. It has been more than once repeated by later writers, but cannot still, with propriety, be omitted in this place. The memoir is thus translated by Dr. Templeman: "In the evening of one of the long days in summer, Mr. Demours, being in the king's garden, perceived two toads coupled together at the edge of an hole, which was formed, in part, by a great stone at the top. Curiosity drew him to see what was the occasion of the motions he observed, when two facts, equally new, surprised him. The first was the extreme difficulty the female had in laying her eggs, infomuch that she did not seen
feet capable of being delivered of them without some assistance. The second was, that the male was mounted on the back of the female, and exerted all his strength with his hinder feet in pulling out the eggs, whilst his fore feet embraced her breast.

"In order to apprehend the manner of his working in the delivery of the female, the reader must observe that the paws of these animals, as well those of the fore-feet, as of the hinder, are divided into several toes which can perform the office of fingers.

"It must be remarked, likewise, that the eggs of this species of toads are included each in a membranous coat that is very firm, in which is contained the embryo; and that these eggs, which are oblong, and about two lines in length, being hardened one to another by a short, but very strong cord, form a kind of chaplet, the beads of which are distant from each other about the half of their length. It is by drawing this cord with his paw, that the male performs the functions of a midwife, and acquires himself in it with a dexterity that one would not expect from so lumpish an animal.

"The presence of the observer did not a little discompose the male: for some time he flopped short, and threw on the curious spectator a fixed look that marked his disquaintness and fear; but he soon returned to his work with more precipitation than before, and a moment after he appeared undetermined whether he should continue it or not. The female likewise discovered her uneasiness at the sight of the stranger, by motions that interrupted sometimes the male in his operation. At length, whether the silence and steady posture of the spectator had dissipated their fear, or that the ca!se was urgent, the male refrained his work with the same vigour, and successfully performed his function.

"The hideous appearance of the toad, Mr. Pennant remarks, is such as to have rendered it in all ages an object of horror, and the origin of most tremendous inventions. Elian makes its venom so potent, that, bathfull-like, it conveyed death by its very look and breath; but Juvenal is content with making the Roman ladies who were weary of their husbands, form a potion from its entrails, in order to get rid of the good man:

"Occurrit matrona potens, quae molle calumen Porrectura vino milict fisitene rubetam." Sat. I.

This opinion begat others of a more dreadful nature; for in after-times superstition gave it preternatural powers, and made it a principal ingredient in the incantations of nocturnal hags:

"Toad that under the cold stone
Days and nights has, thirty-one,
Sweeter'd venom fleecing got,
Boil thou, first, by 'charm'd pot.'"

-Shakspeare.

But these, and other similar fables of its venomous properties, Mr. Pennant observes in another place, have been long since exploded. The notion of its being a poisonous animal, he conceives to have arisen from its excessive deformity, joined to the facility it has of emitting a juice from its pimplies, and a fudgy liquid from its hind-parts. That it poiffles any noxious qualities, this writer was unable to bring forward proofs in the smallest degree satisfactory, though we have heard many strange relations on that point. On the contrary, he knew several of his friends who have taken them into their naked hands, and held them long, without receiving the least injury. It is well known that quacks have eaten them, and have besides tquizzed their juices into a glass and drank them with impunity. We may also lay, that these reptiles are a common food to many animals, such as buzzards, owls, Norfolk plovers, ducks, and snakes, neither of which, Mr. Pennant concludes, would touch them were they in any degree noxious.

It appears, however, from the experiments of Laureni, that although the toad does not possess any poisonous properties, it is not perfectly innocuous to the smaller tribe of animals. He found that small lizards, on biting the common toad, were for some time disordered and paralytic, and even appeared dead, though they completely recovered afterwards. He also observed, that dogs, on seizing a toad, and carrying it for some little time in their mouth, will appear to be affected with a very slight swelling of the lips, accompanied by an increased evaporation of saliva; the mere effect of the slightly acrimonious fluid which the toad, on irritation, exudes from its skin, and which seems at least to be productive of no dangerous symptoms in such animals as happen to taste or swallow it. For a further account of this creature, see the articles Toad, and Rana.

BUFONIA, in Botany, said by Dr. Smith, in English Botany, to have been so named by Linnaeus after the celebrated Count Buffon at the instigation of Sauvage, but with the invasions addition of the trivial name tenusfolia, to express the fleuringness of that great zoologist's claim to a botanical honour, and with the malicious omission of one f in the generic name; whence it seems rather to be derived from the Latin word Bufo which signifies a toad. Venetan actually adopts this etymology, and says the name was given in account of its growing in marshy places. Dr. Withering seems to have entertained the same idea when he called it toad-grafs. Gartner, Schreber, Professor Marty, and Dr. Smith have added the other f; but we have preferred the original spelling of Linnaeus, which has been followed by most other authors. Linn. Richard 17%. Willd. 260. Gen. 124. Juff. p. 520. Vent. vol. iii. p. 258. Clafs and order, instr gefunden. Nat. ord. Caryophyll. Jufs. Vent.


Eff. Char. Calyx four-leaved: petals four: calyx one-celled, two-valved, with two seeds.

Obf. It is sometimes deficient in the number of its flaments.

Species. 1. B. tenusfolia. Linn. Sauyage Monn. 141. Ger. Prov. 400. Villars Dauph. 630. Hidun H. Aug. 72. With. ed. 3 v. ii. p. 329. Smith H. Brit. v. i. p. 191. Gart. Tab. 120. f. 1. La Mareck Pl. 87. f. 1. bad. Eng. bot. 1313. "Stom-panicled; flowers lateral and terminal; calyx frirted." La Mareck Illust. annual. Stems one or more, six or eight inches high, slender, erect, branched, round, leafy, smooth. Leaves erect, opposite, awl-shaped, three ribbed conuate, with a broad sheathing base. Flowers white, peduncele, forming a spikelike panicule. Calyx-leafs lanceolate, with a white edge. German superior; styles short, ditant: stigma capitate. Seeds large and rough. A native of dry situations in Spain, which invalidates Ventenat's reason for deriving the generic name from Bufo, a toad. Its chief claim to a place in the English Flora rests on the authority of Plukenet, who has certainly figured it and affirms that it was found by the sea-fide near Bolton in Lincolnshire. On this ground Ray, who had seen it near Montpellier,
Montpellier, but not in England, admitted it into the second edition of his Synopsis. Dillenius, in the third edition, says it was found also by Doody, on Harelaw hill; but it has not since been discovered in either of those places.

B. parvus, La Marec, Huf. Pl. 87, f. 2. "Stems branched and bearing flowers near the top; calyx leaves fearfully at the edge" perennial. Peduncles longer than in the preceding species, forming a panicle without the appearance of a spike. Frequent in dry stony places in Anvergone.

BUFFONIS, in Zoology, a species of **ascaris** found in the intestines of the toad. The body of this kind is filiform, and the tail rounded. It is viviparous. **Goeae**.

**Bufo**, a species of **tænia**, or tape worm, that infests the intestines of the toad. The anterior part is roundish, behind filiform: head continued obutise: joints invested with a thin membrane, cylindrical, and oblong; margin siliery. **Gmel.** It is **Tænia** dispar of **Goeae**.

Obs. The colour is white, and opake. Length of the worm six inches.

**Bufo**nita, in Natural History, the toadstone. This is a fossil that has been received not only among the hit of native flones by the generality of authors, but even has held a place among the gems, and is still worn in rings by some people: it is, however, as much an extraneous fossil, as any animal remaining of that kind. There has been a strong opinion in the world, that it was found in the head of an old toad; and that this animal voided it at the mouth, on being put on a red cloth.

The general colour of the bufonita is a deep, dusky brown; but it varies greatly in this respect: in several specimens, some of which are quite black, others of an extremely pale, siphne brown, a chelteur colour, liver, brown, grey, or whitish.

The bufonitas are usually found immersed in beds of flone; and so little doubt is there of what they have originally been, viz. the petrified teeth of the **lupus pedis**, or wolf fish, that part of the jaw of the fish has sometimes been found, with the teeth petrified in it. See **Gréonere**.

The bufonita are said to be cordial and alluring: many other fanciful virtues are ascribed to them, which the present practice has rejected.

Dr. Kramer says, **pouls buonam**, when applied by way of prescription, with barley-flour and urine, is an excellent remedy for rippening pelitian bulboes, but that it has no such effect in venereal, or any other than petiliian bulboes.

**Bug**, in Entomology. See **Cimex**.

**Bug**, in Geography, a river of Poland, which rises in Red Russia, and after a winding course through the centre of the kingdom, joins the Villula between Ploëtia and Warsaw.

**Bug-caterpillar**, in Entomology, a name given by Bonnet to a small kind of caterpillar, which smells exactly like a bug. This is not the only species which yields a febible smell, for there is another which, at the time of the change into the chrysalis state, emits a very pleafant refe-like scent; and their cases, which are made of earth and fikl, retain that smell for a long time after, even for several years. Many other insects in this state are known to have a peculiar scent. See **Larva**.

**Bug marble**, in Natural History, a name given by the Spaniards to a species of black marble, called by our artificers the Namur-marble, and known among the ancient Romans by the name of **marmer Lucileum**. It is common in many parts of Europe, and is used by the Spaniards in medicine as well as in building; the powder of it being said to be an excellent styptic, applied to fresh wounds.

**Bugaleit**, in Sea-language, a small vessel with two masts, used on the coast of Brittany. The foresail is very short; and on each mast is carried a square sail, and sometimes a top-sail over the main sail. These vessels have a bowsprit, and set one or two jibs.

**Bugaronie**, Cape, in Geography, lies on the coast of Africa, in the Mediterranean, between Bugia bay on the West, and Cape Ferra on the East.

**Bugat**, a town of France, in the department of the Corrèze, and chief place of a canton in the district of Ust; the town contains 629, and the canton 6011 inhabitants; the territory comprises 507 square leagues and 12 communes.

**Bugee**, in Zoology, a sort of monkey mentioned by Ray in his Synopsis of quadrupeds. He tells us it is an Indian animal, and very rare even in India; that it is about the size of the beaver, and much of the same colour, but its tail and claws are wholly of the monkey kind. The species meant by Ray is altogether uncertain.

**Bugeley**, the name of a large species of lizard, called by Clufius, and some other authors, **Lacerta indicus**. This is **Lacerta Asiatica** of **Gmelin**. See **Ameiva**.

**Bugen**, in Geography, a town of Germany, in the circle of Upper Saxony, and middle mark of Brandenburg, 10 miles W. of Frankfort on the Oder.

**Bugenhagen**, or **Bugenhabius**, John, in Biography, a learned protestant divine, was born at Wollin in Pomerania, in 1485. From being a Catholic priest and a violent opposer of Luther's doctrines on their first promulgation, he became a convert and zealous propagator of them in the north of Germany. At Wittenberg, where he was a minister, he was in high esteem both for his learning and moderation; and his reputation induced Chrifiem III. king of Denmark, to invite him for the purpose of settling the reformation in that kingdom. In this arduous task he gave great satisfaction. He died at Wittenberg in 1558. Of his various works the most worthy of notice are, "Commentaries on the Holy Scriptures," in several volumes, **Svo.** a "Harmony of the Evangelists," and a "History of Pomerania." Nouv. Dict. Hist. Motheim, E. H. vol. iv. p. 304.

**Bugey**, in Geography, a province or small district of France, before the revolution, bordered on the east by Savoy, on the south by Dauphine, on the west by Breil, and on the north by Franche Comté, and dependant on the government of Burgundy. It is about 20 leagues long, and 12 broad. Its capital is Bellev. Before the time of Brennus, the Bugey, the tract of land denominated Gian, and part of Breil, formed a distinct country; which is termed by Polybius the "Celtic Delta," in allusion to its triangular form. M. Peter I. I. Bacon-Taco in his "Recherches sur les Origines Celtiques, &c." Paris, 1799, traces the primitive history of Bugey to the first ages of the world, and thinks that its mountains retain their original form; being a continuation of mount Jura, which is itself closely connected with the Alps. He also endeavours to prove, that the worship of Isis was, from time immemorial, established in the Bugey; and that the topographical nomenclature of the county is filled in a manner entirely "Hellenic." He is inclined, likewise, to suppose, that the inhabitants of this district, 600 years before our era, accompanied Belboefis, from the first part of whose name is derived Belvédère, on his memorable expedition into Italy, where he founded the cities of Cremona, Vicenza, Aquileia, Pavia, Mantua, &c. From various concurring sources this author...
also concludes, that the Rhodians, about 300 years before Christ, founded a colony on the Bugge, and on the authority of Pinty and Enelibus, he affirms that they gave their name to the river Rhone. He further conjectures, from some names that occur in Bugge, that some intercourse formerly subsisted between this country and England; and that the Gauls peopled our island, and founded the cities of London and Dover.

BUGGANG, Baga-Banta, or Bukanetz, a royal, free, and mine town of Hungary, in the Bath district, formerly famous for its gold and silver mines, but now subsiding by tillage. It was locked and burnt by the Turks in 1694; 32 miles W. of Gran.

BUGGARD, a town of Denmark, in the island of Funen, 16 miles W. of Odense, or Ottensee.

BUGGENHAGT, in Ichthyology, a species of Cyprinus, distinguished, according to Bloch, by having nineteen rays in the anal fin.

The length of this fish is about twelve or fourteen inches; its body is of a blackish colour above; comprised on the sides, and silver scales large: flesh white. This fish is found in the lakes of Germany and Sweden.

BUGGERS, Bulgarians, anciently signified a kind of heretics, otherwise called Patarini, Cathari, and Albigenfes.

The word is formed of the French Bougre, which signified the name, and that from Bougria or Bulgaria, the country where they chiefly appeared.

The Buggers are mentioned by Matthew Paris, in the reign of Henry III. under the name of Buggus. Circa dies autem illi venerant heresitas pravitas eorum qui vulgariet discentur Patarini et Buggus, de quorum erroribus malo tactor amqui loqui.

BUGGER, or BUGGERER, came afterwards to be used for a Sodomite; it being one of the imputations laid, right or wrong, on the Bulgarian heretics, that they taught, or at least practised, this abominable crime. Cacen. Orig. p. 27. Menag. Orig. p. 114. Trev. Dic. Univ. tom. i. p. 1149. voc. Bougre. Du-Cange, Gloss. Lat. tom. i. p. 267. voc. Bulgari.

BUGGER, Bulgarius, is also a denomination given to ulers, a vice to which the name heretics are said to have been much addicted. Du-Cange, Gloss. Lat. tom. i. p. 267.

BUGGERY, in our Laws, signifies the crime of sodomy; it is said to have been introduced into England by the Lombards, by whom it is usually supposed to have been borrowed from the Buggers, or Bulgarians. Sir Edward Coke defines buggerry, carnali capula contra naturam, et hoc per consuetudinem spectorum (viz. by a man's or woman's coupling with a brute beast) vel sexuum, by a man's having to do with a man, or a woman with a woman.

The delinquents of the English law treats this crime, in its very indentures, as must be named, "pecatum illud horribile, inter Chrestianos non nominandum." Ret. Parl. 50. Edw. III. n. 58. A similar taciturnity was observed by the edict of Constantine and Conflans. Cod. 49, 49, 51.

This crime the voice of nature or of reason, and the express law of God (Tit. xx. 13, 14) determine to be capital. Of this we have a signal instance long before the Jewish dispensation, in the defilement of two cities by fire from heaven; so that this is an universal, nor merely a provincial precept. Our ancient law in some degree imitated this punishment, by commanding such miscreants to be burnt to death (Brit. c. 9); though Fleta (i. c. 37) says, they should be buried alive; either of which punishments was indifferently used for this crime among the ancient Goths. Sten. de jure Goth. 1. 5. c. 2. But now the general pu-
Mecca, and about 37 leagues west of it. N. lat. 23° 15', E. long. 38° 40'.


Species, B. spectabilis, La Merck, Illus. Pl. 294. A beautiful evergreen shrub. Stem armed with recurved prickles placed a little above the axis of the leaves. Leaves alternate, petiolar, roundish-ovate, acuminate, very entire, veined. Panicule terminal; peduncles three-flowered. Flowers inserted on the midrib of a roundish bract, resembling a leaf longer than the flower, seated on the common peduncle, and adhering to the bottom of the corolla. A native of Brazil described and figured from a dried specimen sent by Commerford.

Buggletham, in Geography. See Baglana.

Buglas, See Island of Negros.

Buggle, in Botany. See Ajuga.

Bugs, among Sportsmen, formed probably from the Saxan bugen, to head, denotes a hunting-horn.

In Heraldry, the bugle-horn is generally borne fringed and garnished; which circumstance must be included in the blazon.

Bugs, is also used for a frissing bead of black glass.

Buglio, in Geography, a town of Switzerland, in the Valdeline. N. lat. 46°. E. long. 9° 40'.

Buggle, in Botany. See Anchusa.

Buggloss, common blue vipers. See Echiurn vulgare.

Buggloss, cowslips. See Pulmonaria officinalis.

Buggle, wild vipers. See Echiurn Italicum.

Buggle, small wild vipers. See Asperugo procumbens.

Buggloss, fes. See Pulmonaria maritima.

Bugglossa, Brunf.

Bugglossa Italiana. Trag. See Anchusa officinalis.


Bugglossa urbania. Cord. See Borago officinalis.


Bugglossum, a genus instituted by Tournefort, the species of which have been distributed by Linneüs and his followers among the genera lithospermum, anchusa, and lycoptis. It has been revived by Gartner with the following essential character: "Calyx five-parted; corolla funnel shaped, orifice closed with arched scales; stamens five; style one; nectaries four, one-celled, perforated at the base."

Bugglossum orientale flore luteo. Tourn. See Lithospermum orientale.

Bugglossum Sanium fruticos. Tourn. See Lithospermum fruticosum.

Bugglossum Ghiurm arvenae. Tourn. See Lithospermum intermedium.

Bugglossum germanicum Fuch. See Anchusa officinalis. Bauh. Pin.

Bugglossum Creticae. Boerh. See Anchusa angustifolia.


ment of Ufa, seated on the Kinel; 148 miles W.S.W. of Ufa.

BUGUTCHANI, a town of Siberia, 108 miles E. of Emirk.

BUHEL, or BUHEL, a town of Germany, in the circle of Swabia, and margravinate of Baden, 6 miles S.W. of Baden.

BUHLITZ, a town of Germany, in the circle of Upper Saxony and Further Pomerania.

BUI, a town of Ituria, belonging to the states of Venice, the residence of a governor; 9 miles S. of Capo d'Ituria.

BUILDING, Art of. The art of building is, perhaps, the most ancient of all arts; clothing is rejected or dispensed with by some savages, and in some favoured climates the arts of procuring food are rendered almost unnecessary by the unfolicited bounty of nature; but we are acquainted with no people that do not form dwellings, places of shelter and security during the night, of assembly to the family, and госупes of the property, however trifling, that none are without. It is not even confined to man; birds, beasts, and insects, have their architecture; but their modes, inspired by instinct, are invariable as the operations of nature; to man alone is given the principle of improvement.

The forms and methods of building depend essentially on the nature of the materials furnished by the country, and the state of society among its inhabitants; and, accordingly, nations very remote in situation, and distant in time, have resembled one another in these particulars. Vitruvius relates that the Celts, in the kingdom of Pontus, where they abound in forests, fix trees in the earth close together in ranks to the right and left, leaving as much space between them as the length of the trees will permit; upon the ends others are laid transversely, which enclose the space for habitation in the middle; then at the top the four angles are braced together with alternate beams, and the roof is also formed by beams laid across from the extreme angles gradually converging, and rising from the four fides to the middle point at the top, and then covered over with boughs and loam. The interstices which remain in the walls, on account of the coarseness of the materials, are stopped with chips and loam. The reader will observe how accurately this passage describes the log-houses of the American back- settlers. On the other hand, the Phrygians (continues Vitruvius) who inhabit a champaign country, delitute of timber, fetch little natural hills, excavate them in the middle, dig an entrance, and widen the space within as much as the nature of the place will permit; above they fix flakes in a pyramidal form, and cover them with reeds or straw, heaping thereon great piles of earth. This kind of covering renders them very warm in winter and cool in summer. The habitations of the Phrygians thus described, appear to resemble very nearly the subterraneous dwellings of the Samoyedas and Greenlanders. The kind of cabin, however, most frequently found among barbarous nations, is of a conical shape, formed by branches of trees interlacing one another, and meeting in a point at the summit, their exterior surface being covered with reeds, or leaves, or clay. Such are the wigwams of the North American Indians, and the kraals of the Hottentots and Caffres.

But to proceed to civilized nations. The edifices of the Egyptians, which are regarded as the earliest monuments of wrought stone, are also the most distinguished in that method. The immense quarries of Egypt probably inspired the task, as they furnished the materials, while the periodical overflows of the Nile facilitated their transport. Thus favoured by nature, the energetic industry of the ancient Egyptians delighted in every thing wonderful and gigantic; the pyramids, immortal as the country, proud tombs which have long outlived the memory of the mighty kings whose ashes they contain; granite temples, extensive as towns, and surrounded as cabinets, temples which enclose in their courts, or support upon their roofs villages of the modern inhabitants; mile long avenues of sphinxes, colossal statues, and obelisks. The art of building, among the Egyptians, was reduced to the simplest principles; unacquainted with arches, the doorways and other openings were covered with solid lintels, and the temples roofed with mafly slabs, the walls, columns, and entablatures were formed of stones of the largest size, perfectly wrought, and laid in horizontal courses, without cement or ligatures; the walls were of enormous thickness, and generally diminishing upwards, with a regular slope, in the manner of fortifications. The passage within the great pyramid is roofed in a regular manner with courses of stones projecting over one another, like inverted steps, till they meet at the summit; thus shewing a method of ceiling with stone which may be regarded as intermediate between the use of lintels and of arches. Some of the tombs also present examples of vaults hollowed in the solid rock, and of niches. So far, and, according to our present information, no farther did the Egyptians proceed towards the discovery of arches. But we expect with patience the account to be published by the National Institute of France, when accurate measurements, correct drawings, and minute research, conducted under all the advantages of leisure and protection, will replace the hasty sketches and imperfect remarks of individuals, who, though deferving of applause and gratitude for having done so much, under circumstances of danger and discouragement, have left still more to be desired. The size of the mafly of stone employed in these constructions is altogether astonishing, and displays mechanical skill and energy, which leave far behind all the similar enterprises of modern nations. Thus, in the temple of Hermopolis, one of the largest of the remains, the columns are 9 feet 6 inches in diameter, the architrave is composed of five stones, each 23 feet long, and the frize of as many; the only remaining stone of the cornice is in length 36 feet. Of the hundred columns of the portico of the temple at Karnac, the leaf is in diameter 8 feet, and the greatest 12 1/4 feet. The two obelisks at Luxor, of rose-coloured granite, are still 70 feet above the ground, and to judge by the depth to which the colossal statues which accompany them are buried, we may reckon about 30 feet more concealed from the eye, making in all 100 feet for the height of these monuments. Their preservation is perfect; the hieroglyphics with which they are covered are cut in deep and in relief at the bottom, and shewed the bold hand of a master, and a beautiful finisb. (Denon's Travels in Egypt.) But the account which Herodotus gives of the monolythic chapel of the temple of Latona, at Butias, is the most extraordinary; it was 40 cubits in every dimension, and was covered by another single stone, 40 cubits square, and 4 cubits thick. The fame historian also informs us, that this enormous load was brought on rafts from the island of Phyliss to Butias, a distance of 200 leagues. This is undoubtedly the greatest weight that has ever been moved by the power of man.

The wonders of human industry also characterize the monuments of the ancient inhabitants of India; but their efforts were directed, almost exclusively, to excavation. The
BEADING.

The caves of Elephanta and Saliare, the sculptured rocks of Mavataram, and, above all, the vast temples scooped in the granite mountains of Ellora, rival, in the indestructible labour of their execution, the works of the Egyptians.

The records of Persepolis retrace the style of Egypt; from whence it appears, that the Persians received the art of building to an upright stone. Diodorus Siculus relates, that it was not till after the conquest of Egypt that they built the famous palaces of Susa and Persepolis, and that these great works were directed by Egyptian architects.

The fame table for gigantic constructions and extraordinary works, in large stones, is found among nations who, without communication with those already mentioned, must receive it from nature alone. When the Spaniards conquered Mexico and Peru, they remarked, that the natives were accustomed to build edifices with large stones, perfectly wrought and jointed, and laid without mortar; they had also transported from distances many of extraordinary dimensions. Stonehenge, and various works of the same nature, in our own country and on the continent, may also be mentioned as effects of energetic construction, which had preceded every thing of finick and ornament. Thus it should appear that this mode of building has everywhere been adopted previously to that with small stones and mortar.

The inhabitants of countries deprived of stone quarries supplied the deficiency by means of bricks. These were at first used crude, being merely dried in the sun, during a considerable time; but at length the manufacturers found the method by baking them to form bricks as solid and durable as stone. Of this material were built the walls of Babylon and the temple of Belus, the most ancient example of this mode of construction which history records, and which were reckoned among the wonders of the world. We also learn that bitumen was used as cement in these buildings, which renders it probable that at this period the method of reducing calcareous stones into lime to form mortar was not known.

It is, however, to the discovery of lime, that we owe the durability and perfection of cementitious building. Bitumen forms a porous connection which the air diffuses and the action of the sun evaporates, while calcareous cements are capable of acquiring a hardness superior to that of the general character of bricks and building stones.

The buildings of the Greeks were at first of wood and clay; but they soon substituted stone and marble to the beams and posts which formed their original edifices; and these were so regular and beautiful, that they offered a model, which art never lost sight of in the most fumptuous decorations. From this imitation arose the orders of architecture, and a refined style, which, affording to every member its use and situation, preferred its original form, and perpetuated the memory of the ancient art of building. The Greeks, favouring by nature with abundant quarries of marble and other building stones of the best quality, proceeded on the same simple principles of construction which characterize the Egyptian monuments: large blocks of stone squared with mathematical accuracy, and laid without cement; openings covered with lintels, with a few exceptions of arches and vaults in the theatres and gymnasias; pediment roofs frequently covered with marble tiles. The observations of Mr. Beverley, given in the preface to the third volume of Stewart's "Antiquities of Athens," defend transcription. I shall add a few words on the construction of the buildings of Athens, which have not been mentioned in this work. The temple of Minerva is an example of this important part of their architecture. The columns are all constructed of single blocks in diameter, and in courses of more than a diameter in height: the wall enclosing the cell of the temple, is formed of a single course of marble blocks in thickens, giving a face inside and outside, the vertical joints corresponding over each other, and in seventeen horizontal courses, reckoning from the bottom of the architrave to the top of the upper step, rising to a height of thirty-three feet. The capitals confit each of one single block, 2, 9, 9, high, and the architrave lies upon them without any other precaution being taken to relieve the weight from the projecting edges of the abacus, than the most extreme accuracy in the two surfaces of the underface or soffit of the architrave, and the top of the abacuses, to render them perfectly parallel. The architraves are composed of three blocks, from face to back, each extending from centre to centre of the columns, and each block alo the whole height of the architrave, and of equal thickens. The frieze is in two courses in height, and each course wants so much of being the whole thickens of the frieze, as allows the metope, with the sculpture, which is cut on a thin slab, to lie against it. The triglyphs tail in one height, but do not go through. I observed that a triglyph, lying among the ruins, was so formed, that the back of the block was considerably narrower where it went into the frieze than the breadth of the triglyph, so that each extremity of the triglyph projected on to the face of the slab of the metope several inches, thus forming a rebate, which enclosed the metope. The cornice is in blocks, which are the width of one mutule and one space, their ends forming a complete course on the inside. The tympanum of the pediment is composed of one course of upright slabs, in the outside face, with horizontal courses behind them. The pavement, of which great part remains, is in squares of equal size, large and thick; the joints, as is the universal practice at Athens, are cut with the mott mathematical precision, and are extremely difficult to discover in those parts which have taken a dark tint. "The perfect flat in which these monuments remain, which have not been destroyed by violence, is one proof of the judgment with which they were constructed. The temple of Minerva would have been entire, except its timber roof, at this day, if a bomb had not been thrown into it by the Venetians, when it was used as the powder magazine of the Turks. The propylæa, applied to the same purpose, was blown up by lightning, and blown up. The small temple of Theseus is almost as entire as when it was first erected. Even so small a building as the Choragic monument of Lyciae is now entire, a circumstance arising chiefly from the great judgment shewn in its construction, by erecting it with large blocks, and consolidating the whole with a roof wisely made of one single piece of marble." The erection of porticos required a frequent employment of very considerable blocks, and accordingly implied great skill in the art of transporting and elevating these masses. Vitruvius celebrates the limpid and ingenious method practiced by Ctesiphon, in conveying the shafts of the columns of the temple of Diana at Ephesus from the quarries, which were in single stones, sixty feet long; these, by means of axle-trees, adapted at each end, were made to revolve in the manner of a garden-roller.

The ancient Etruscan have left monuments of the same taste in the art of building; however, it is to them that is generally ascribed the method of building with small stones and mortar, at least, it is in the country which they inhabited, that are found the most ancient vestiges of this mode of construction. This method was carried to perfection by the Romans, who were also probably the inventors of domes. Their first temples were round and vaulted, as those of Quirinus, Romulus, Faunus, Cybele, Vesta, &c. Colatus was the first Roman architect who built after the manner of the Greeks, about
200 years before the Christian æra. From this period, though the Romans adopted the Grecian architecture, they did not reject their original mode of construction. Their most considerable edifices are built with pebbles and rubble stones, grouted in mortar, with the arches and angles and facings of brick, or small rubble stones squared, and strengthened at intervals, with regular bonding courses of stone or brick, running through the whole thickness. The walls, so built, were generally inclosed with flint or marble. This method of building is much more expeditious and economical than concretions of wrought stone, which occasion a considerable waste of materials, extraordinary labour in dressing and squaring, and necessitate great expense in removing and elevating. By this method the Romans, employing all kinds of workmen, and materials to the smallest fragments, were enabled to raise the prodigious number of edifices which surpas, in extent, the monuments of any other people.

Vitruvius describes the different kinds of wall used in his time in this manner. The forts of walls are the reticulated, which is now generally used, and the ancient, which is also called the uncertain. Of these two, the reticulated is the handsomest; but the joints are so ordered, that in all parts the courses have a firm position; whereas, in the uncertain, the materials rest firmly one upon the other, and are interwoven together, so that they are much stronger than the reticulated, though not so handsome. Both forts are formed of very small pieces, that the walls, being saturated with mortar, may endure longer; for the stones being of a porous and spongy nature, absorb the moisture from the mortar, and when there is abundance of mortar, the wall having more humidity, will not so soon decay, but will, on that account, be rendered more durable; for as soon as the humidity is extracted from the mortar by the fission of the stones, then the lime and sand separating, the cement is diffused, and the mortar, no longer uniting the materials, the walls soon become ruinous. This may be observed in some tombs near the city, which are built with marble, or hewn stones, and the internal parts rammed with rubble stone; the mortar being, by length of time, drained of its humidity by the fission of the stones, and the union of the joints being diffused, they separate, and fall to ruin. To avoid this error, Vitruvius proceeds, the middle space must be strengthened with abutments of the red hewn stone, or bricks, or common flints built in walls two feet thick, and bound to the front with cramps. Another fort, is that called by the Greeks empelion, which, (says Vitruvius), is also used by our villagers. The faces of the stones in this kind are smooth, the reef is left as it grows in the quarry, being secured with alternate joints and mortar; and our artificers quickly raising a shelf, which serves for the faces of the wall, fill the middle with rubble and mortar. But the Greeks do not build in that manner; they do not only build the facing courses regularly, but also alternate joints throughout the whole thickness, not ramming the middle with rubble, but building it the same as the face; besides this, they dipole single pieces, which they call ditamos, in the thickness of the wall, extending from one face to the other, which bind it exceedingly strengthened the wall.

Two works in wrought stone of the Romans were, as well as those of the Greeks, constructed without cement; but they used cramps and ligatures of iron and bronze in extraordinary profusion. It is remarked by Mr. Wood, in describing the great temple of Balbec, probably a work of Antoninus Pius, that "the shafts of these columns consist of three pieces, joined most exactly without cement, which is used in no part of these buildings, and strengthened by iron pins received into a socket worked in each stone. Most of the bases had two such sockets, one circular and another square, corresponding to two others of the same shape and dimension in the underpart of the shaft. By measuring one of the largest of these, which were circular, we found the iron pin which they received must have been a foot long, and above a foot in diameter. When we observed, by finding such sockets in all the fallen fragments of this temple, that each stone had probably been strengthened in this manner, we were left surprised at the quantity of iron paid to have been carried away by the Bafhaws of Damascus at different times from these ruins, on which they had left evident marks of their violence, though unsuccessful attempts to get at the iron of the columns which are flailing. How much this method contributes to the strength of the building, is remarkably seen in the temple entire, where a column has fallen against the wall of the cell with such violence, as to beat in the stone it fell against, and break part of the shaft, while the joinings of the same shaft have not been in the least opened by the shock." The use of metal was not confined to cramps and bolts, the ancient even constructed roofs of bronze; the portico of the Pantheon, before its spoliation by Urban VIII., was covered with beams and rafters of this material. Tiled with marble, and supported with granite columns; this portico presented a rare combination of grand and beautiful architecture, with the richest materials, and the appearance of indestructibility. Serlio has preferred a design of this metallic roof, which was formed of beams and rafters, after the usual methods of carpentry; these were united and secured by pins and nails of the same metal; and as well to economize the materials, as to lessen the weight of the whole, the pieces were hollow. The interior of the portico is divided by the columns into three divisions, or aisles; the two lateral were ceiled, and that in the middle vaulted, also with bronze. The quantity and beauty of this metal may be appreciated by the throne of St. Peter, and the Baldacchino of the fame cathedral, the most considerable, beyond comparison, of modern works in bronze, and whose enormous masts is not the equivalent of the spolias of the Pantheon from which they were formed, for an inscription on the portico of this edifice informs us, that the excess of this valuable metal was cast into the canons of St. Angelo.

Bronze was also used with magnificent profusion in the decoration of buildings; thus many edifices preserve not indeed the ornaments themselves, these have long been torn away by the rapine of barbarism, but the marks and cramp-holes, by which were attached alto relievo or trophies or inscriptions.

It excites regret to reflect that the means employed by the ancients to increase the beauty and ensure the solidity of their edifices, have, in many instances, only served to accelerate their destruction; the beautiful marbles of the Grecian temples are continually carried off by Turkish carvers of grave stones, or burnt into lime; the inhabitants near the seat of the temple of Apollo Dilion, appear to have been principally supported by this impious manufacture. Palmyra and Balbec have long furnished mines of material to the neighbouring Baffaws; the Coliseum bears, in innumerable faccoided holes, the marks of an attempt at its entire ruin in search of the cramps which connect its stones; and the amphitheatres of Nimes are still blackened by combustions kindled for the same purpose; the temple of Peace, the baths and palaces of the emperors, and indeed almost all the edifices of grandeur and magnificence have been more ruined by the violences of rapine than the injuries of time.
It may be remarked, before we quit the subject of antique constructions, that the Greeks and Romans in their buildings of wondrous stone appear always to have worked only the beds of the stones before placing them in the building, leaving the faces to be worked after the erection of the edifice; an excellent method, which saves from injury the arches and buildings. On this account, unfinished columns are sometimes found in their remains; as in the relics of the temple of Apollo Didymaeus, near Miletus, may be seen two columns supporting their architrave, with the flutes entirely worked; also, one left standing in its unfinished state, the channels under the capital, and at the base only, being marked out, as a direction to the workmen in completing the fluting, after the structure was raised. (Onian Antiquities).

Similar instances are also found in the Island of Delos.

The durability and extreme solidity of the Roman cementitious buildings, in which the masonry has very generally acquired a vaulted superstructure to that of the rubble stones which it connects, compared with the fragility and crumbling nature of the mortar, used by modern builders, had led some to suppose, that the ancients possessed processes and recipes for the formation of cement, the knowledge of which had perished together with many other valuable secrets in the ages of barbarity, which succeeded the fall of the Roman empire. But better information, and the experiments of ingenious men, have exploded this opinion, and there can be no doubt, that proper attention to the choice of lime stone and sand, to the burning of lime, and, above all, care and labour in the mixing and tempering these materials, would enable our workmen to rival those of Rome in this important part of construction. In some instances, this has been tried, and though the lapse of ages may be necessary to make the comparison complete, yet present appearances are sufficient to banish any reasonable fear of the refult. See the article CEMENTS, calcareae.

Architecture, together with all the arts and sciences that adorn and illustrate humanity, experienced the feeblenees and degradation which attended the decline and fall of the Roman empire. Impudent compilers of the spoils of the edifices of happier times, the builders of those ages, have only perpetuated their own ignominy. Constanine was the first of these deplorers; he ruined the arch of Trajan to adorn his own with its inappropriate ornaments, and the Mausoleum of Adrian supplied columns to support the aisles of his churches.

In the general confusion occasioned by these practices, it is not to be wondered at that the principles of Grecian architecture, somewhat corrupted in the belte times of Rome, should be entirely lost: architraves were omitted and columns were made to support arches and vaults; arcades were everywhere substituted to colonnades, vaults to ceilings; thus the excessive use of arches and vaults is characteristic of the method of construction adopted in the middle ages.

This corrupted Roman style continued with various and increasing deteriorations, and under different names, as in our own country, of Saxon and Norman, to be the prevailing architecture of Europe till towards the 12th century, when what is generally called the Gothic style prevailed. This is an architecture of figurul and original merit, surprizing, and fantastic, and magnificent, and awful; but for the description of Gothic architecture the reader is referred to that article; our business at present is with the modes of building observed in these edifices.

The Gothic mode of construction is an ingenious compendium of building well adapted to the peculiar style of architecture; economical in materials and labour. Rejecting heavy cornices, architraves, and lintels, of all kinds, the builders had seldom occasion to use stones larger than a man might carry on his back up a ladder from scaffold to scaffold, though they had pulleys and spoked wheels upon occasion. Thus they were readily enabled to raise up their works to an extraordinary height; in which particular they appear to have placed great pride and emulation. Hence the lofty towers and spires, ambitious ornaments that tyrannize over the body of the building, and claim attention at the expense of those useful parts to which they ought, but disdain, to be inferior. The churches were adorned with groined vaulting, which threw the weight on the springing points instead of distributing the pressure equally along the walls, as was the case with the Roman plain vaults and ceilings; the points of pressure from the vaults were opposed by buttresses, and the intermediate spaces of the walls were thin, and occupied with windows; in this respect again differing from Roman construction where the walls are of uniform thickness in their whole extent, without apparent buttresses. The vaulting was ingeniously composed of a skeleton of hewn stone, and the interfaces filled in with lighter materials. Thus Mr. Price remarks, in his Observations on the Cathedral Church of Salisbury, that "the groins and principal ribs are of Chilmark stone, but the shell or vaulting between them is of hewn stone and chalk mixed, on top of which is laid a coat of mortar and rubble, of a confisence probably ground in a kind of mill and poured on hot while the lime was bubbling, because by this the whole is so cemented together as to become all of one entire substance. This composition is very remarkable, somewhat resembling the pumice stone, being porous and light, by which it contributes prodigiously to the strength of the whole, and at the same time the least in weight of any contrivance that perhaps was ever used."

The machine of a Gothic edifice, consisting so essentially of vaults and arches, required great contrivance in balancing and sustaining their preservatives; this was effected by means bold, ingenious, but sometimes preternatural and insufficient. The genius of these architects had a tincture of extravagance which led them to sacrifice always the apparent, and too often the real solidity of their buildings to those picturesque and marvellous effects which captivate the imagination of every one, but offend the judgment of the connoisseur. Accordingly these edifices must not expect to rival the duration of the immortal contrivances of Greece and Rome.

The pendants from the vaults are among the most pleasing and innocent of the plays of ingenious contrivance in the Gothic style; but the attempt to substitute weight to butment, generally observed in the middle aisle pillars of cathedrals, supporting an unslated preservative of the side vaulting, is a serious defect, which threatens the ruin of these venerable piles. On this account Sir Christopher Wren observes, that "almost all the cathedrals of the Gothic form are weak and defective in the poise of the aisles. As for the vaults of the nave, they are on both sides equally supported and propped up from spreading by the bow or flying buttresses which rise from the outward walls of the aisle. But for the vaults of the aisles they are indeed supported on the outside by the buttresses, but inwardly they have no other stay but the pillars themselves, which, as they are usually proportioned, if they flood alone without the weight above could not resist the spreading of the aisle one minute: true indeed the great load above of the walls and vaulting of the nave should seem to confine the pillars in their perpendicular ration, that there should be no need of buttment inward; but experience hath shewn the
The contrary, and there is scarce any Gothic cathedral that I have seen at home or abroad, wherein I have not observed the pillars to yield and bend inwards from the weight of the vault of the aisle.

Hence it appears that the method pursued in erecting these buildings was to infert the springing flones as the work proceeded, but to leave the vaults to be formed after the walls were carried up to their full height and the whole roofed in.

The pointed arch has several advantages over arches formed by one segment of a circle; particularly, as applied to vaults, it will rife with little centering, requires lighter voussoirs, and left the room clear. The Gothic architects seem to have perpetually calculd the minimum of neceflity, and scarcity of stone, and they displayed considerable skill in arranging the appearance of buildings by the choice of materials; we have already seen the light compactness of their vaults, and on the other hand they frequently used Purbeck marble, a very hard and strong flone for the slender shafts which had to support great weights. The roofs of Gothic buildings are very high pitched, a form more of choice than necessity, rather adopted in compliance with their pointed and pyramidal style of architecture, than necessitated by the climate, as they are generally covered with lead. These roofs are therefore fully in the walls with an unnecessary load of lead and timber, and they are also deficient in construction by the omission of eye beams to counteract their tendency to spread and thrust out the walls.

Modern architecture, though it has adopted its decorations from the remains of Greek and Roman antiquity, has still retained considerable traces of the Gothic style. These may be observed in the affeclication of height, in the ornamentations of domes and turrets, and in the fenestrae for complicated forms of plans and multiplicity of parts; and accordingly the construction also is a medium between Gothic tenacity and Roman prudence; the balancing of arches and vaults still exercised the skill of the architects; the doors of St. Peter's, of the Vatican, and St. Paul's of London, illustrate the ingenuity and mathematical science of their authors, but we no longer find apparent solidity rejected, or real solidity sacrificed. We have seldom the grand constructions in hewn flone of the Greeks, nor, on the other hand, the economical building of Gothic architects, nor the cementsitious walls of the Romans.

Stone, brick, timber, and metal, are our materials. Stone is used rough in rustic buildings, either dry or in mortar; but the flone employed in more finished edifices, either as facing to brickwork, or, where the material is plentiful, in the whole substance of the walling, is used in blocks of moderate size, squared and laid in mortar, and bonded with alternate courses; modern architects, and particularly the French, have shown much ingenuity in the laying of arches and piers and plat-bands. Iron is used plentifully both for cramping flones together and in ligatures to entire walls, thus all considerable domes are strengthened and secured from spreading by strong chains surrounding them; and lead is continually employed in large quantities on roofs. Timber is used in all edifices to form roofs and floors, and to bind and strengthen the walls and foundations, and many buildings are erected entirely with this material. Carpentery is the art in which modern workmen chiefly excel.

The buildings of this country may be comprehended under the following classes: rough flone, like the common houfes of the rocky districts, which are either worked dry or with mortar; hewn flone, as the buildings of Bath; brick and flone mixed, in which, as they are always remote from quarries of flone, that material is the most expensive, and therefore employed in the ornamental arts, as cornices, plat-bands, window fills, and all the members of architecture, and sometimes applied as a facing to the brick wall; in this manner are all the buildings of London; and, lastly, timber, which was formerly the most common of all, and is now a very considerable class: such are all the cottages of the poor out of the rocky districts, and many farm houfes and considerable dwellings. These are formed of a frame of timber-work, which in the better fort of houses has its interlaces filled in with brick-work, and is called brick nogg, or brick and flud, and then lathed over and plastered, or rough-caft, or fluced, or sometimes boarded; the poorer fort, however, are covered with reeds and clay. English buildings are roofed with reed and thatch, which was formerly the most general mode, and is still very prevalent in the country; also with tiles, slate, lead, and copper. Slates are used copiously in the flone counties, and brought thence to other parts, as a light, durable, and handsome covering. Tiles are the manufacture of the brick districts, and used there. Lead and copper, as the most expensive materials, are seldom employed to cover entire roofs, but chiefly for gutters and platforms.

Our buildings may justly claim the merit of lightness in construction, economy of labour and materials, and convenient distribution. Their real and evident defect is the want of solidity: this is in great measure to be attributed to the bad quality of the cements, which are composed with such disgraceful carelessness and ignorant haste by the workmen. Our bricks too, which are made on the principle which pervades all our manufacturers of sacrificing every thing to quantity and cheapness, are neither tempered nor burnt sufficiently. In the arts of carpentry and joinery our workmen are peculiarly eminent, both in the bold and skilful construction of roofs and bridges, and in neat and accurate internal finishings.

As the buildings of London are regulated by what is commonly called the Building Act, "an act for the further and better regulation of buildings and party walls, and for the more effectual preventing mischief and fire, within the cities of London and Westminster and the liberties thereof, and other the parishes, precincts, and places within the weekly bills of mortality, the parishes of St. Mary-le-bone, Paddington, St. Pancras, and St. Luke at Chelsea," which repeals and amends several former acts for the same purpose, it may be proper to give a brief abstract of part of it. This act, passed in the 42nd year of the reign of his present majesty, A.D. 1774, begins by dividing all buildings into seven rates or classes, for the purpose of subjecting them to various regulations respecting the thickness of their walls. Cap. 2. The first rate comprehends churches and all places of public worship, all buildings for brewing, distilling, soap making, melting of tallow, dying, boiling of turpentine, casting brass or iron, refining sugar, and glass making, of whatever dimensions these buildings may be, and also every warehouse, and other buildings whatsoever, not being a dwelling house, which exceeds three clear stories above ground, exclusive of the rooms in the roof, or which is of the height of 31 feet above the pavement of the street to the top of the coping; and every dwelling house, which with its offices connected otherwise than by a fence wall, or open passage, exceeds when finished the value of 80l., or covers more than nine squares of building on the ground floor, (each square containing 100 superficial feet). The regulations for these are, cap. 3 and 4, that all the external walls shall be built, at the foundation, of the thickness of two bricks and a half, or 21 3/4 inches, thence to diminish gradually 2 1/4 inches.
The road, Cap. 1.

From offices thence to the under side of the plate under the roof or gutter; and thence, the parapet is to be built in the thickness of one brick, or 8½ inches, with the exception of such parts of the wall as shall be wholly of stone, which may be of the thickness of 14 inches below the ground floor, and nine inches above. The party walls of the same buildings are to be built at the foundation three bricks and a half, or two feet six inches and a half in thickness; thence to diminish gradually 4½ inches on each side to the top of the footing, which must be one foot high, and two inches below the cellar floor; thence, the wall is to be built in the thickness of two bricks and a half, or one foot six inches and a half up to the under side of the ground floor; and thence in the thickness of two bricks, or 17½ inches, up to the under side of the floor of the rooms (if any) in the roof of the highest building adjoining to such party wall; and thence of the thickness of one brick and a half in length, or 13 inches, to the top of the wall.

Cap. 5. defines the second rate of buildings, which consists of every warehouse, stable, or other building, not being a dwelling house, that exceeds two clear stories, and does not contain more than three clear stories above ground, or which is of the height of 22 feet and under 31 feet from the pavement to the top of the coping; and also every dwelling house which with its offices exceeds the value of 500l., and does not amount to more than 850l., or which covers more than five, and less than nine squares of building. Cap. 6 and 7. The external walls of the second rate are to be built at the foundation in two bricks thick, and diminish regularly 2½ inches on each side to the top of the footing, which must be nine inches high; thence to be carried up in one brick and a half thick to the under side of the one pair of rafters floor; and thence of the under side of the coping of the parapet in the thickness of one brick; stone work excepted, which may be of the thickness of nine inches above the ground floor. The party walls are to be three bricks and a half at the foundation, diminishing 4½ inches on each side to the top of the footing, which is to be nine inches high; thence, the wall must be two bricks and a half thick up to the under side of the ground floor; thence, two bricks thick up to the under side of the floor of the two pair of rafters floor; and thence of the thickness of one brick and a half to the top of the wall.

Cap. 8. The third rate of building is defined to include every warehouse, stable, and other building, not being a dwelling house, which exceeds one clear story, or does not contain two clear stories above ground, or which is above 13 feet, and less than 22 feet in height from the pavement to the top of the coping, and also every dwelling house, which with its offices exceeds the value of 150l., and does not amount to 300l., or which covers more than three and a half, and less than nine squares of building. Cap. 9 and 10. The external walls of such buildings are to be two bricks thick at the foundation, and to diminish 2½ inches on each side to the top of the footing, which must be six inches high; thence, the wall is to be carried up one brick and a half thick to the under side of the ground floor, and thence, one brick in thickness to the coping of the parapet. The party walls are to be three bricks thick at the foundation, diminishing 4½ inches on each side to the top of the footing, which is to be nine inches high, and thence, to be built two bricks in thickness to the under side of the ground floor, and thence, one brick and a half thick to the top of such wall.

Cap. 11. The fourth rate of building which is defined to include every warehouse, stable, or other building, not being a dwelling house, which does not exceed one clear story above ground, or the height of 13 feet from the pavement; and every dwelling house which with its offices does not exceed the value of 150l., or three squares and a half of building. Cap. 12 and 13. The external walls of this rate are to be similar to those of the third rate. The party walls must be two bricks thick at the foundation, diminishing 2½ inches on each side to the top of the footing, which must be nine inches high; thence, to be carried up in one brick and a half thick to the under side of the ground floor; and thence, one brick in thickness to the top of such wall.

Cap. 18. Every building except such as are particularly included in the first or seventh rates, which is at the distance of four feet and not eight feet from any public road, and which is detached from any building not in the same polefion, 16 feet and less than 30 feet, is declared to be of the fifth rate, and may be built of any dimensions whatever.

Cap. 19. The fifth rate only differs from the fifth in demanding, that such buildings may be eight feet distant from the street or road, and detached 30 feet from other buildings; and this rate may be built of any dimensions, and with any materials whatever.

Cap. 20. Every crane house on any wharf or quay, and every timber, windmill, or water-mill, and also every building situated without the cities of London and Westminster, and the liberties thereof, used as workshops for tanners, fellmongers, glue makers, calico printers, whitters, whitewash makers, curriers, buckram fliners, oil-cloth painters, woolen shakers, throwers, or plastermakers, is declared to be of the sixth rate of building, and may be built of any dimensions whatever. Cap. 21. Crane-houses must be built externally of stone, brick, slate, tile, oak, elm, oak, iron, or brass; and all other buildings of the seventh class may be erected of any materials whatever, but must not be covered with pitch, tar, or any inflammable composition.

Cap. 22. Every office which shall be entirely detached from the building to which it belongs, or connected therewith only by a fence, wall, or covered passage, open on one or both sides, shall be deemed to be of the rate or class of building such office would be of, if it did not appertain to any other building.

Cap. 14. The materials of party walls are to be brick or stone, and no timber to be used in them, except such as is necessary for planking, bridging, or piling the foundation; and cap. 27. for temples, chans and bond, and also the ends of girders, beams, purins, binding and trimming joists, or other principal timbers, observing always to leave 8½ inches of solid brick work between the ends and sides of such timbers and the timbers of adjoining buildings. Cap. 26. Party walls are to be carried up one foot six inches above the roof of the highest adjoining building, which shall gable against them; and to be one foot above the jutters. Cap. 29. Chimmies built in party walls are subject to the following regulations: the back of the chimney from the hearth, to 12 inches above the mantle, is to be built in 13 inches thick in the basement story, and 8½ inches thick in the upper stories; and in those cases where chimneys are built back to back on each side of a party wall, the entire thickness of the backs is to be, in first rate houses, eighteen inches in the cellar story, and thirteen inches in the upper stories; and in the second, third, and fourth rates, the thickness in the cellar story is to be thirteen inches, and eight inches and a half in the upper stories.
Cap. 38. Every owner of any building within the limits of this act, who may think it necessary to repair or rebuild the party wall between himself and the adjoining premises, is to give three months' notice in writing to the owner of the adjoining building, appointing a survey to be made of the said wall, and naming two surveyors or able workmen on his part, and requiring the said party also to name two surveyors to meet at an appointed place, to view and certify the state of the wall. But if the owner of the adjoining premises shall neglect to appoint two surveyors on his part, according to notice, then the two surveyors first named, together with two other surveyors, to be named by the party giving notice, may, within six days after the time appointed in the notice, view the party wall, and certify in writing under his hand to the court of mayor and aldermen, or to the justices of the peace in their next quarter or general sessions as the case may be, the condition of the party wall, and whether the same, or any part thereof, ought to be repaired or pulled down and rebuilt; and in case the major part of the surveyors appointed shall not, within the space of a month from the appointment, sign the certificate, then it shall be lawful for any one or more of the justices of the peace for London or Westminster, or the county of Middlesex or Surry, as the case may be, to appoint one other surveyor to be added to the surveyors before appointed, all or the major part of whom are to meet, and view the party wall; and in case the major part of them shall certify the wall to be decayed or ruinous, and not sufficiently secure from fire, then, within three days from the making such certificate, a copy of it is to be delivered to the owner of the adjoining building, or affixed to the door if it is unoccupied, and also filed with the clerk of the peace in the city, county, or liberty, where such wall is situated; and the last mentioned owners may appeal from the certificate to the next general or quarter sessions, when the justices are to summon before them one or more of the surveyors, and examine the matter upon oath, and thereupon make such orders as they think fit.

Cap. 41. The person whose expense a party wall is built, shall be reimbursed by the owner of the adjoining premises who makes use of the wall, a part of the expense in the following proportion. If the adjoining building be of the same, or a superior class to the building belonging to the person at whose expense the party wall was constructed, the owner of such adjoining building shall pay one moiety of the expense of so much of the party wall as he shall make use of; but if the adjoining building be of an inferior rate, the owner shall pay a sum equal to a moiety of the expense of building a party wall, as required by the act for such class of building.

Cap. 46. Door and window frames are to be set in reveals and recesses, at least four inches from the front of the building, except the door cafes of warehouses. Cap. 48. Every coping, cornice, fascia, window dressing, portico, balcony, battlements, or other external decoration, or projection whatever, is required to be made externally of brick, stone, burnt clay, or artificial stone, flueco, lead, or iron, except the cornices and dressings to shop windows, or the covered ways to any building. No water is to be suffered to drip next to any public way from the roof of any building, except from the roofs of porticos or other entrances, but to be conveyed by metal pipes, or wooden trunks, or brick or stone tunnels into drains or referrers.

Cap. 49. No bow window or other projection shall be built next to any public street, so as to extend beyond the general line of the fronts of the houses in the said streets, except such projections as are necessary for copings, cornices, fascias, door and window dressings, or for open porticos, steps, or iron pallidfades; and also, except shop windows, which are allowed in streets 30 feet wide or more, to project ten inches from the line of the building, and five inches in streets of less width.

Cap. 53. No flack of warehouses shall contain more than 35 squares of building on the ground plan, except such warehouses are divided by one or more party walls into divisions of not more than 35 squares each, and any communications made through the party walls are to have door cafes and fills of stone, and iron doors. Stables are only to contain 25 squares in one division, with the same regulations.

Cap. 55. If any building of the first, second, third, or fourth rates, (except the mans of court or chancery, the royal exchange, company halls, and except warehouses and dwelling houses, let at a rack rent for not more than 25 pounds by the year,) shall be converted into two or more dwelling houses, work-shops, stables, or other buildings which shall be in distinct tenures on the ground floor, then each such tenement shall be considered as a separate building, and be divided by party walls.

Cap. 59. No iron, tin, copper, or other pipe or funnel for conveying smoke or steam, is allowed to be in front of any building next to a public street, nor in the inside of any building near than 14 inches, to any timber or other combustible material.

Cap. 62. The mayor and aldermen of the city of London, and the justices of the peace for the county of Middlesex, Surry, the city of Westminster, and the liberty of the tower of London, are empowered to appoint surveyors to see the rules and regulations of this act properly complied with: and cap. 63, before any building is begun to be erected, the master workman is bound to give 24 hours notice thereof to the surveyor of the district, in which the building is, who is to attend and view the building, and enforce the observance of the act. The fees to be paid by the builder to the surveyor are, for a building of the first rate 3l. 10s., and for an alteration or addition to the same 3l. 15s.; for a building of the second rate 3l. 3s., and for an alteration 3l. 10s.; for the third rate 2l. 10s., and 1l. 5s.; and for the fourth rate 1l. 15s., and 1l. 15s. for the building, Ship. See Ship.

BUILT, in Sea Language, is an epithet applied to ships, denoting their peculiar form and structure, and distinguishing some of others from a different class or nation. Thus we use frigate-built, galley-built, &c. English-built, French-built, &c.

BUILTH, or Buallt, in Geography, is a market town of Breconshill, Wales, finely situated on the banks of the river Wye, over which there is a handsome stone bridge. According to some antiquaries, here was the Roman station which Ptolemy calls Bullemum Shurum. Several intrenchments are still remaining in the vicinity of the town, and some Roman bricks, inscribed LEX: II, have been found here. The Chronicle of Caradoc relates, that the Danes, in 803, who had been vanquished and harassed by Alfred, fled to this part of the country, and, among other devastations, nearly demolished the town of Built. It was, however, again rebuilt and fortified with a strong castle, and again suffered a nearly similar fate, in 1217, by Reynold de Brute, who then broke off his alliance with Llewelyn ap Jarwerth, and united with Henry III. In 1221 he was beggared in this fortress by a party of Welsh lords; but Henry, to whom he had remained constant, came with an army and raised the siege. About 1256, we find this fortress in the possession of Rhys Fychan, whom Llewelyn ap Gruffyd defeated and forced...
forced out of Bulih. In various other wars between the English and Welsh, this place was alternately occupied by the conquering power, and in each conflict experienced some damage.

This town is singularly built on two parallel terraces, and faced two streets, on the side of a steep declivity. The upper street is clean and respectable, but the lower, and more populous street, on the banks of the Wye, is narrow, and most of the houses have a poor and mean appearance.

Bulih, from its contiguity to Herefordshire, and from the combined attractions of its salubrious air, grand and interesting scenery, and the quality of its waters, is much resorted to by druggists. It is provided with two weekly markets, and three fairs annually. Bulih is 117 miles N.W. from London, 15 from Bucknock, and contains 994 houses, and 5159 inhabitants.

About one mile N.W. of Bulih is a celebrated mineral spring, called The Park wells; and about seven miles N.E. is Llandinidol wells, consisting of three springs. These waters are esteemed of highly medicinal qualities, and are recommended by the faculty in many disorders of the human frame. Dr. Lindon has written a treatise on their peculiar properties. These wells are situated on a common, on which are a few scattered houses, and a large building for the accommodation of those who visit them. The wells of Llandinidol, which are similar in quality to those of Llandinidol, lie on the other side, at no great distance from Bulih. Malkin's Tour in South Wales, 1804. Evans's Cambrian Itinerary, 1805.

BUINAH Point, a cape on the west coast of Ireland, being the southern point of the entrance into Newport or Clev bay, in the county of Mayo. Near it are some rocks and a ledge which require the attention of mariners. In some nautical books it is called Runinaha. W. long. 9° 45'. N. lat. 53° 45'. McKenzie. Beaufort.

BUINSK, a town and district of Russia, in the government of Simbirsk, seated on the river Sviaga; 36 miles N.N.W. of Simbirsk.

BUIS, I.e, a town of France, in the department of the Drome, and chief place of a canton in the district of Nyons, 24 leagues S.E. of it, and seated on the Oreze. The town contains 2215, and the canton 8032, inhabitants; the territory comprehends 325 square miles and 24 communes. The district called Buis, before the revolution, was a territory of Dauphiny, small and mountainous, but moderately fertile.

BUISKOI, a town of Siberia, 56 miles S.E. of Nertchinsk.

BUITRAGA, a small town of Spain in New Castile, seated on a rock, which is fortified both by art and nature.

BUKANS. See Bugganz.

BUKARI. See Buggari.

BUKI, a town of Poland, in the patalinate of Kiov, 44 miles south of Bialacerkew. N. lat. 49° 25'. E. long. 50° 28'.

BUKO, a small town of Germany, in the ancient duchy of Mecklenburg, called New Boku, by way of distinction from Old Boko, a neighbouring church village.

BUKOVITZE, a town of Croatia; 14 miles S.E. of Carlstadt or Carlowitz.

BUKTARMINSKOI, Mountain, a branch of the Altay mountains of Russia, which commences in the superior region of the river Bukterra, at the frontier heights between the Cevene and the Russian empire, declines from the north towards the north and west, accompanied the fore-mentioned stream, on both its sides, till its confluence with the Irrith. It reaches to east and north-east as far as the mountains that run along the Kokusan, and towards the north up to those that follow the course of the Uba. From the Bünkoi snow mountains up to the head of the Uman, which falls into the Kookusan, it forms a lofty ridge, rising almost throughout in high summits of snow, and on this side extends its greatest height to the source of the last-mentioned river. This huge mountain, as yet little known, and partly inaccessible, confines, as far as it has been examined, in its highest points, of various kinds of granite, porphyry, and fand breccia. But in its chasms, and particularly towards the shore of the main or most considerable rivers, different sorts of schistus, slide-bene, marl, breccia, and sand-flone are frequently met with. Jasper is found in abundance, with porphyry and sand, in the superior regions. Of the chalk mountains seen in the lower confines of the Bukterra, some are very craggy, and have a number of caverns. In these mountains there has hitherto been explored but one mine, the Buktarminflioi, with any hope of success. See Alsikai.

BUKUKUNSKOI KAMEN, a fortress of Siberia; 120 miles S.W. of Doroninik.

BUKUPIENICK, a town of Poland, in the patalinate of Lublin; 22 miles S. of Lublin.

BUL, in the Hebrew Calendar, the eighth month of the ecclesiastical, and second of the civil year, since called Mashevan; it answers to our October, and has nine and twenty days.

Bul, in Ichthology, one of the English names for the common flounder.

BULAC, in Geography. See Boulac.

BULACAN, a small province of the island of Luzon, or Manilla, lying between Panagunda and Tondo. It abounds in rice and palm-wine.

BULACH, a town of Swisserland, in the canton of Zuric, and a prefecture of the same name, which first entered into an alliance with Zuric, in 1407. The inhabitants are Protestans; and the town contains 8 miles N. from Zuric. N. lat. 47° 25'. E. long. 8° 27'.

BULACH, a town of Germany, in the circle of Swabia, and duchy of Wurtenberg. In the annexed bailiwick is a mountain, which furnishes iron and copper ores; 20 miles W.S.W. of Stuttgart, and 4 S.W. of Calu.

BULAFO, a musical instrument, much used by the Negroes of Guinea, &c. It consists of several pipes made of hard wood, set in order; which diminish by little and little in length, and are tied together with thongs of thin leather twisted about small round wands, put between each of the pipes, so as to form a small interference. They play on it with sticks, the ends of which are covered with leather, to make the found less harmful.

BULAKUAN, in Geography, a remarkable caille in the empire of Morocco, situate on the banks of the Morbeys, in the province of Duquilla. It stands in a wild and barren spot, on the summit of a commanding eminence more than 260 feet high, and forms a pyramid, with rounded angles; and a large river runs beneath it, which, from its depth and rapidity, inspires a kind of horror. This caille was built at the close of the 15th century, by Muley Abdalmomen, the first king of the race of the Moahedins; but many additions were made to it by Muley Abdallah, son of Muley Ithmah. This prince caused fabulous passages to be dug at a great expense for procuring water from the river; and in order to secure his water-carriers from the fire of the musketry, he built conduits, which brought the waters from the neighbouring mountains, the ruins of which are still visible on the road from Bulakuan to Morocco. Near the caille
cable is a village, and another before you pafs the river; each of which contains about 200 houses, or thatched huts, being piles of rough brown stone without mortar. These villages, inhabited by Moors, are exempt from taxes, in consideration of their giving needed assistance in crossing the river. Although the cable stands in a sandy barren situation, the banks of the river below it present to view well-cultivated gardens, with their orchards and vineyards. Each garden contains a windlass and a bucket, for supplying it with water. The only ferry-boat for passing the river near this cable, is a raft, composed, for the occasion, of reeds, to which reeds, inflated with wind, are tied with cords, made of the palm-leaf. This is furnished by several Moors, who, while they swim, guide and support it by their shoulders, in spite of the rapidity of the current. On this crazy craft travellers and their effects are transported. We learn from Livy, that, during the second Punic war, when Hannibal went from Spain to Italy, a part of his army passed the Rhone, the Ticino, and the Po, on goat-skins filled with air. A kind of temporary bridge is constructed for the passage of the emperor, confiding of two thick oar cables, fastened to large piles on each bank of the river. These cables are formed into a kind of hurdle, by passing through them iron flake about 5 feet long, and laying upon it 6 inches thick.

Chenier's Prefent State of the Empire of Morocco.

BULAM, or BOULAM, an island in the Atlantic, near the coast of Africa, at the mouth of the Rio Grande, a league from the continent, and about 18 leagues long, and from 4 to 5 broad. N. lat. 17°, W. long. 14° 50'. Some have considered it as one of the Bissagos isles. See Bissagos. The whole coast of this island is described as bordered with woods, beyond which the country is singularly fertile, rich, and beautiful. It was formerly uninhabited, and cultivated by the natives of the other islands, who visited it in food-time and harvest, and returned home for the rest of the year. It was found to be abundantly productive of rice, maize, millet, fruits, and roots. The ground is said to rise imperceptibly from the shore for the space of 2 leagues, thus exhibiting a most agreeable prospect. This aspect serves as a base to higher mountains, which stand in the centre of the island, covered with fine wood, and separated by beautiful vallies, with such regularity, that nature would seem to have been improved by art. This island was recommended, long ago, as the commencement of the last century, by M. da la Brue, to the French government, as a fit place for a settlement; and the advice was repeated, in 1767, by the abbé Domenet. However, during the year 1791, a society was formed in London for establishing a settlement on some eligible spot on or near the coast of Africa. Thos. who formed this association, allured by the flattering information which they had received of the island of Bulam, fixed on this as the object of their deliberation. The subscribers were to receive a grant of 500 acres of land for the sum of 30l. and in that proportion for any greater or less number of acres, as far as 2000. In the space of one month after opening the subscription, 5000l. were paid into the hands of trustees. After having encountered various difficulties, the adventurers arrived at Bulam, and immediately took possession of it by hoisting the British flag. The natives unexpectedly attacked the new-comers; killed some of them, and obliged the others to relinquish what they had obtained. Accordingly, as they were thus compelled to abandon it, they fought for refuge in a settlement belonging to the Portuguese, where most of the unfortunate adventurers became victims to the climate of the country. Mr. Montefiore, who was a principal agent in this business, depairing of the colonization of Bulam, embarked for Sierra Leone, of which he gives a very favourable account. However, from another account, compiled from the records of the Bulam society, we are led to entertain a more favourable opinion of the situation and prospects of this colony. Mr. Beaver, who resided at Bulam as chief in command, in a letter dated July 1793, expresses great confidence of the final success of the undertaking; declaring that, with sufficient support (not military; every thing having been fairly purchased, and amicably settled with the neighbouring Africans) "not one-tenth part of what had been allotted to the Sierra Leone company," he could, long ago, "have added to our present territories land sufficient to maintain 200,000 people, and at very little expence." He concludes his letter, addressed to the trustees of the Bulam society, observing, "that if the good people of England knew but one half of the advantages to be derived from colonizing this part of Africa, on an extensive scale, you might command half the money in the kingdom." This officer resided at Bulam about two years.

Dr. Chisholm, in his "Essay on the malignant pestilential fever, &c." Svo. 1795, maintains that the yellow fever was originally brought to the West Indies from Bulam in the ship Hanky, on board of which it commenced.

BULARCHUS, in Biography, a Greek painter, flourished 740 years B.C. and is said to have been the first who introduced (at least among the Greeks) different colours in the fame picture.

BULASCHAIA, in Geography, a town of Siberia, on the fourth side of the 1st, opposite to Tobolsch.

BULATMAI, in Tethysigny, a species of Cyprinus, the anal fin of which contains eight rays; the second dorsal fin is large, and not limited: beards or cirri four. Habitus. Cyprinus Burlatmai is a rare fish, of the size of the common carp. The colour is steel blue, glistened with gold above, and silver, shining with a golden hue beneath; the scales are of the middle size, semicircular, dilated, and immersed: flesh white as snow, and very good. This inhabits the Caspian Sea.

BULB, or BULUS, in Botany, a species of plant employed by Theophrastus, sometimes the name of a plant allied to Scilla Alba, and others of the same family, but not particularly ascertained by modern botanists, and sometimes denotes the peculiar kind of root by which those plants are distinguished. In the latter sense it was admitted by Pliny, and other Latin writers, and is preferred in most of the modern languages of Europe. Our English gardeners universally speak of it as a root; and it is said by professor Martyn, in his "Language of Botany," to have been called by botanists, till Linnaeus corrected the error, and shewed that it is a single bud enveloping the whole plant; but Linnaeus was by no means the first who viewed it in this light. Our countryman Grew, in the second book of his "Anatomy of Plants," prefixed to the Royal Society in 1672, says expressly, that "all bulbous roots are, as it were, hermaphrodites, or root and flower both together; for the flowers only are abortive roots; the bulb actually containing those parts, which springing up, make the leaves or body; and is, as it were, a great bud under ground." About the same time Malpighi was engaged in a similar course of study at Bologna, and communicated the result of his researches also to our Royal Society. Under their patronage his "Anatome Plantarum" was published in London, the first part in 1675, and the second, which contains the tract of "De Radicibus," in 1679. He treated the subject more at large, and dissected, described, and figured several of the best known bulbs. In complete agreement with Mr. Grew, he uniformly states the bulb to be a germ or bud, consisting of leaves or coats which enclose the rudiments of the future plant,
BULB.

plant, and produce other embryo buds for its farther propagation and increase. Nor were these great physiologists the first who started the idea. We find it clearly expressed by Clusius, who wrote a hundred years earlier. "Elt ergo tulipa, ut & alarum bulbosum tunicatum, bulbus nihil aliud quan gemmae grandis subterranea, quae prius adnatas externas intra fe conceptum alium bulbum fec gemmam, qui natura bulbosorum etiam videtur, cum revera non fit, fed diversis in pulchrum foibole; cuncta intra ipsum bulbum conceptus & externus fit, adnatis extramus grandior & habitior evadit, ipsique parentis zomusus." Even in the time of Theophrastus, as we learn from his "History of Plants," lib. i. cap. 10, it had been disputed whether a bulb is properly a part of the root: a question which the venerable botanist, after flating the arguments on both sides, finally resolves in the affirmative, on the general principle, that roots are capable of appearing under different forms, and that all which is under ground belongs to the root. It appears, however, that, at so early a period, there were some who compared the bulb to the xyurn, xyurn, or cyuma, the flabby part of the stalk of a cabbage, when it first rises above the surface of the ground; and, if we admit the proposed reading of one of the commentators, others went so far as to call it \\textit{ovum}, \\textit{oculus}, an eye, or gem; but the conjectural restoration of a passage so corrupt in the manuscripts as to be confinedly unintelligible, cannot be brought forward to establish a fact in the history of science. Since the publication of the Philosophia Botanica, no doubt has been entertained on the subject; the botanists, as well as others, still speak of bulbous roots: nor can any material objection be made to the continued use of the term, if it be understood to mean a bulb-bearing root, or as it is accurately expressed in the Terminii Botanici, "radix bulbo instruxa." 

Gems and bulbs are somewhat quaintly, but not unaptly, styled by Linnaeus, hybernaeula, the winter quarters of the young, or rather embryo plant; and they belong respectively to different families of the vegetable kingdom. They are distinguished from each other by their situation, and by such differences in their form and texture as their peculiar circumstances require. In the Systema Naturae, a gem is said to be an hybernaeulum seated on the ascending caudex; and a bulb to be an hybernaeulum seated on the defending caudex: in popular language, the former is above, the latter beneath the surface of the ground: i.e. the gem is a stem-bud, and the bulb a root bud. In the Terminii Botanici of Elengren, published in Amoenitates Academicae under the eye of Linnaeus, the distinction between them is taken, not from their situation, but their substance. A gem is there said to consist of the rudiments of future leaves; and a bulb to be the rudiment of those which are past. In this definition the great naturalist, for to him it must ultimately be attributed, even allowing the general principle to be true, has sacrificed clearness, if not propriety of expression, to his characteristic love of antithesis. The rudiments of future leaves require no explanation: but the \textit{rudimentos} of those which have \textit{perished}, it is not so easy to understand. He undoubtedly meant the remains of what were once the rudiments of the leaves; and which, sheltered by the surrounding earth, have not been entirely destroyed, though considerably changed in their appearance, by a change in the temperature of the air. Or as it is stated by Ferber in the dissertation entitled "Propepi Plantrum," published also in Amoenitates Academicae, \"bulbus a gemma in eo folium differt, quod bafes foliorum perifentia a copioso fucco, quem e terrae haumeant, fiant canae, \& nova folia fuis gemmis instructa excrecent intra priorum bafes. Non confundt debent bafes foliorum præteritorum cum follis futuræ plantæ; illas enim haud altere considerare oportet, quam ut quas gemmarum exteriores ab aere vel frigore imbruatæ.\"

It is natural to inquire how the remains of leaves which in their perfect state were above the surface of the ground, have been drawn down so as to become the scales or coats of subterraneous bulbs. To account for this, Linnaeus must have adopted, though we do not remember that he has quoted, the theory of the old botanists concerning the gradual descent of the caudex, supposed to be produced by the mechanical action of the radicles or firing roots, which, to borrow the homely language of Grew, \"defending themselves directly into the ground, like so many ropes, lug the trunk after them.\" This idea is mentioned by Dr. Darwin in his Phytologia with some degree of contempt, and passed over without a formal refutation as the unfounded doctrine of \"some inaccurate observers.\" Without presuming to detract from the exalted authority of Grew, who certainly ought not to be ranked with the tribe of inaccurate observers, we may venture to intimate that the inferences which form what may be called the body of the bulb, are not in all cases the remains of decayed leaves, but have been originally formed below the surface, and have never advanced beyond their present appearance. In this point of view they have actually been represented by some of the disciples of Linnaeus under his immediate instruction; as appears from Leelings' dissertation \"De Gemmis Arborum in Amoenitates Academicae.\" \"Bulbos diximus," says that writer, \"nihilo aliud esse, quam gemmas, cum codem modo ac ille inulant intra fe futurum plantam; fed eorum tumici evantur succulentae a copioso nutrimento, quod haumeant e terræ cui inasangatur, quo repleti non pollut amplius extendi;\" i.e. bulbs, we have asserted, are no other than gams; for like them they include the future plant, but their coats are rendered succulent by the copious nourishment which they draw from the earth, and in consequence of this reflection become incapable of farther extension.

Of these two concise definitions of a bulb, that given in the Philosophia Botanica is evidently inaccurate: since it is so expressed, as to include the root buds of perennial herbaceous plants, called by some authors, but not by Linnaeus, turions; which have not the form, and have never been known either in popular or scientific language, by the name of bulbs. That in the Terminii Botanici, as we have seen, deficient in perspicuity; and when properly explained, does not appear to possess sufficient precision. Bulbous plants are defined by Mr. Ray to be those which consist of a single tuber or head, either scaly or tunicate, throwing out numerous fibres from its base. In this definition our great countryman should not have introduced the word tuber; for in the preceding sentence he has expressly divided the flabby roots which swell laterally, into bulbous and tunicated. A bulb, therefore, and a tuber, were, in his ideas, as we believe them to be in nature, different things.

A bulb is now universally understood to be a species of bud of a peculiar structure suited to its situation on the plant. A bulbous root consists of this bud, of the proper radicles, and of the intermediate caudex. A tuber, if we mistake not, is a radicle, swollen, either wholly, or in part, to an extraordinary thickness, and having generally, if not always, imbedded within its substance the rudiments of one or more future buds; as in the well known root of the potato, solanum tuberosum. See \textit{Tuber}. 

Bulbs are divided by Linnaeus, in his Philosophia Botanica, into four kinds, the squamous, the tunicated, the solid, and the articulated.

The squamous bulb consists of imbricated lamelles; i.e. of scales laid partially one over the other, like the tiles or slates
flats on the roofs of buildings, but more loosely connected, and a little diverging at their points; as in several species of lily. The root of the white lily is described and figured by Malpighi in his "Anatome Plantarum." It is composed of scales, or, as he calls them, leaves, gibbous without, and a little concave within, so adapted to each other as to form a bulb. These scales proceed at different elevations from a solid elongated body, luted by Malpighi a radical trunk, the developing caudex of *Linnaeus*, which sends out from its base a number of compound radicles, and from its upper extremity, within the scales, the root leaves and stem of the plant. The tunicated bulb consists of numerous tunics or coats, as in the common onion, allium cepa. These coats lie close together in concentric layers, and proceed from a short broad caudex, having its upper surface more or less convex. They envelop at their centre the embryonic plant of the ensuing season; and between them, at different distances from the centre, other bulbs, called caseyux by the French naturalists, and offsets by English gardeners, for the future increase of the species. The solid bulb is said by Linnaeus to consist of a solid substance, and the tulip is given by him as an example: but he must be understood to speak comparatively, not strictly and absolutely. The tulip root is thus described by Dr. Darwin in his Phytologia: "In the tulip root diffused in the early spring, just before it begins to shoot, a perfect flower is seen in its centre; and between the first and second coat, the large next year's bulb is, I believe, produced; between the second and third coat, and between this and the fourth coat, and perhaps further, other leaves and bulbs are visible, all adjoining to the caudex at the bottom of the mother bulb; and which, I am told, require as many years before they will flower as the number of coats with which they are coated." It is evident from this description, that the bulb of the tulip is as really coated as that of the onion. Indeed it had been arranged by Mr. Ray among the tunicated bulbs long before the time of Linnaeus. It differs only in having its coats more fleshy, and less easily separated from each other: characters found in a still greater degree in several other bulbs which are, nevertheless, by no means truly solid. It appears to us that no proper bulb is or can be so. If we adhere to the idea given of it by Linnaeus, as a kind of hypanthecum, or winter quarters of the embryo plant, it must have a space within it for that purpose: it must also, as we conceive, have coats or coats, within which caseyux, or offsets, for the future increase of the plant may be formed. The bulbs which have been called solid, have coats, either comparatively thick, and so closely compacted together, as, on a slight inspection, to resemble one indistinguishable mass; or, so small and few, as to be exceeded in bulk by the full grown caudex. Hence has arisen the difference in authors with respect to their distribution of this kind of root. The bulb of the crocus, for instance, has so doubtful an appearance, that Mr. Ray, in his "Historia Plantarum," has placed it among the tuberose roots; but our great naturalist would not have so classed it, had it pulsed under his eye in an early stage of its growth, when it is clearly tunicated. It is considered by Philibert in his "Introduction a l'Etude de Botanique," lately published at Paris, as a mixed bulb, or rather a tunicated tuber. "In the bulb properly so called," says that acute naturalist, "the caudex is less in bulk than the tunics, and the rudiments of the stem embraced by them: in the tunicated tuber the caudex is more considerable; and in the pure tuber, the tunics are entirely wanting." "Thus," continues he, "in the crocus are found only two or three tunics, which are finally lengthened into a spathe, and closely embrace the leaves implanted on the caudex; whereas, in the true bulb the leaves are surrounded by a great number of tunics which never increase in length. Take up a crocus some time after it has flowered, and you will find that the exterior coats are destroyed; the caudex is naked, and several small bulbs appear sealed on its convex face; or, as it is somewhat ambiguously expressed in the original, le caudex en a découvert: & fur plusieurs de ses points, vous remarquez de petits bulbules, nains de la tubérose même du caudex." It seems evident, from the latter part of the sentence, that this ingenious writer, in the present case, confounded the tuber and the caudex, which are, in fact, always distinct parts of a plant; and was thence led to give the root of the crocus a character which it does not possess. This root has nothing about it equivalent to a tuber but it is firmly bulbous, and, like that of the onion, consists of proper radicles, a caudex, and a tunicated bulb. The only difference between them arises from the relative proportion of the caudex and the tunics: a difference which, though sufficiently obvious in the extremes, may be lost in such gentle gradations, as to render it impossible to draw a line of distinction, and which therefore cannot be received as a specific character. In the instance before us, it exists, we believe, only in those bulbs which have arrived, or are nearly arriving at maturity, and are about to produce flowers. We this day, March 12th, dissected a young bulb which had produced leaves above ground, but would not have flowered during the present year. Its coats bore a considerable proportion to the caudex, and contained within them, distinctly formed, two new bulbs, each enclosing an embryonic plant, furnished with the rudiments of its future leaves. An older one, in flower, examined at the same time, was, to all appearance, completely solid, with the exception, however, of the usual thin, brown, dry, and boisterous envelopes, which were, doubtless, the shrivelled remains of the former coats. All the rest was the proper caudex, greatly increased in size, and having on it, at different distances from the central flower-flask and leaves, two caseyux, or offsets, seated on its naked surface. Each of these offsets consisted of an apparently new and very small caudex, springing from a shallow concavity in the surface of the old one, and of numerous coats much exceeding their proper caudex in bulk, and all extended either into the feathers, the leaves, or the spathe of the future flower. Another mature plant had two flowering stems proceeding from two bulbs, so closely connected together as to resemble one, but separated near the top by the usual brown membranous coverings. These bulbs were, doubtless, formed in the same season, and within the same coat of the parent bulb, on opposite sides of the flowering bud of the preceding season; and appear to have so far exhausted the caudex, though now arrived at its full size, as to render it incapable of producing any more offsets. The bulb of the common corn flag, described and figured by Malpighi, approaches still nearer the naked developing caudex, or what has been improperly called the solid bulb. It was considered, indeed, by this eminent naturalist as a tuber, consisting of homogeneous matter collected into one continuous substance: but it is evident, from his description, that it has the characters of a true bulb. The external surface of the tuber or bulb, says he, "stripped of its scaly and involucres, presents to the view various gemmae: and a little below their origin, leaves, as usual, break out, which, being plucked off, leave fragments of their stalks, as represented in his figure, and give to the whole the appearance of a trunk or stem."
The root of the orobanche, figured and described by the same author, is of a more dubious nature. In the first place, it does not belong to the monocotyledinous division of plants, in which the legitimate bulbous plants are usually, if not always, found. In the next place, it produces on its surface scattered gem, each supported by an external, caduceous leaf; some of which gem springs also from the stem, or ascending cædax. We presume, therefore, that it may be a fending cædax, with germ-bearing leaves, analogous to those of trees and shrubs. It may be proper, however, to remark, that Bernard Jaffenci, as we learn from La Mareck's "Flora Françoise, Discours Preliminary," p. 54, placed in the royal garden at Trionon, orobanche, lathrex, and some others, in the division of the monocotyledinous plants. Anthony Jaffenci, on account of their having both a calyx and a corolla, and their evident affinity to other dicotyledonous genera, has judged them to be dicotyledinous. What induces his illusion to think otherwise we are not told. The parasitical growth of all the species of orobanche renders it difficult to ascertain in what manner they spring from the seed; but the disposition adopted by so eminent a botanist, and the description of the root given above from Malpighi, seem to indicate something of a monocotyledonous character, and afford ground for a conjecture, that in these plants a connecting link between those great natural divisions may be found.

The root of the common turnip (brassica rapa) which has been called a bulb by many writers, though not by Linnaeus, is nothing more than an intumescence of the descending cædax, produced by a luxuriant foil; and most generally the effect of cultivation, differing from the cultivated carrot (daucus carota), which no one ever thought a bulb, merely in form. Neither of them has any claim to the character of an hypernucumal.

The articulated, or jointed bulb, confius of lamelle or scales, linked or chained together; such as are found on tuberosum moxchate (adoxo moxchatella), the greater toothwort (lathrex tuberosa), and bulbiferous coral-root (den- taria bulbifera). The only instance of this kind of root given by La Mareck, is that of white faxifrage (faxifraga granulata), but he thinks it should rather be ranked with the tuberosus than the bulbous roots.

Ventricat, in the "Botanic Dictionary," prefixed to his "Tableau du Regne Vegetal," confines the term bulb to those which are strictly tunicated or coated, among which, as we have seen, those folid by Linnaeus ought to be placed; and has ranked with the tubers universally so called, (such as those of the common potato), the globular root of the turnip radish, (a variety of raphanus fativus), intending, doubtless, to include the common turnip; the fcaly root of the lily; the knotty root of the common dropwort (spirea ficipenda); the articulated root of tuberosum moxchatel; the falciculated root of aphedonius lutosus and eruciaceus; the graminous root, of the garden ranunculus (R. Alis-ticus); and the heteriform, or diluculent root of several species of orchis. We are inclined to think that this able botanist is right in separating all those from the proper bulb; the essential character of which will then depend on its tunicated structure, and the difference of the species will arise from the various thicknesses of the coats, and the proportion of their whole substance to that of the descending cædax; but the remaining ones are so dilustrous to each other in several important respects, that they cannot, with any degree of precision, be called by the same name.

The true distinction between a bulb and a tuber appears to us to be in their relative situation with respect to the descending cædax. The bulb crowns the proper root, and has the cædax interposed between it and the radicles. The tuber is situated under the cædax, either on the same plane with the radicles, as in some species of orchideae; or, still lower, when it is evidently an intumescence of the radicle itself, as in the common potatoe. Linnaeus, in his practical works, uniformly calls those roots of the orchideae, which answer this description, bulbs; solely, it should be seen, on account of their general appearance; for they are not mentioned under any of his four divisions, and do not correspond with either of the definitions quoted above from the "Philosophia Botanica," and the "Termini Botanicae." That they do not essentially differ from the tuber of the common potatoe, is evident from the folio by which, in different species, they approach that well known and invaluable eculent. In orichis bifolio, pyramidalis, tubiflua, &c. they spring immediately from the cædax along with the proper radicles; in orichis maxilla, orphylo apicera, &c. they swell suddenly from the radicle itself at a small distance from its origin; and in orphylo monarchi, the new tuber is so far from the cædax as to be apparently not different from that of the potatoe. These ferioriform tubers differ only in name from the palmate, falciculated, and aggregate tubers of other species, between which, and those of common pilewort (Rnunculus ficaria), aphedonius luteus, &c. as far as the subject has hitherto investigated, no certain line of distinction can be drawn. All the radicles of orphylo nidos avus, birds-nett orchis, are swollen into tubers. The rare orphylo Loesedi appears to differ from all the rest of its natural family, in having a true bulb. A tuber, therefore, is an intumescence of the radicle, as the turnip, carrot, &c. are of the cædax; and, like them, may possibly be, in some cases, merely a refervoir for the nourishment of the present item, particularly in a droughty season. In this light the singular tubers of spirea ficipenda are confidered by Dr. Smith. But it is more commonly, and as no actual observations have been made on the roots of ficipenda to determine the question, we are rather inclined to think it always a real hypernucumal, having imbedded in its substance the rudiments of one or more future buds in a leaf advanced state than that of the bulb. When the tuber is small, and contains only a single bud, as in several leguminous plants, and perhaps some graffes, it is called a tubericle.

Ventricat is probably correct in placing the grumous root of the garden ranunculus under this head. But the scaly root of the white lily, &c. differs essentially from the tuber in being placed upon the cædax; as it does from the true coated bulb, in having a looser texture; being, in fact, composed of unconnected scales, which, by their concave shape, are so adapted to each other, as to produce the appearance of a bulb. The scales of common wood forrel (oxalis acetosella) are of the same kind, but smaller, and somewhat less compact; those of tuberosum moxchatel have, in a still less degree, the form of a bulb; and in the bulbiferous coralwort the resemblance totally vanishes. They all, we apprehend, agree in having the rudiment or bud of a future plant situated at their axis, to protect which seems their proper use; and if torn off with a small part of the cædax, and planted in a fuitable soil, will readily take root. Radical fibres are indeed plentifully thrown out under the scales of tuberosum moxchatel while they are attached to the parent plant; they are found more sparingly in bulbiferous coralwort; and sometimes, as appears from Malpighi's figure, occur in the white lily. Roots of this kind seem to form a connecting link between the true tunicated bulb, and the proper bud or gem of the ascending cædax in trees and shrubs. The greater toothwort, having no other radicles, is, we conceive, rather allied to the orphylo nidos avus; and in this...
this opinion we have the satisfaction to find that we are sup-
ported by the authority of Dr. Smith. See English Botany, p. 50. The granules of the white fastigium, which Linnæus calls stem-bulbs, though he has constructed his definition of the term bulb so as to ex-
clude them. They are placed either in the axils of the leaves, as in lilium bulbiferum, dentaria bulbifera, &c.; or on the common receptacle of the head of flowers, as in sev-
eral species of allium; or, within the calyx, instead of a pro-
per seed, as in polygonum viviparium. Botanists have paid little attention to their natural history; and have, for the most part, done nothing more than announce their existence. We know not that any inquiry has ever been made, whether those which are found in the three very different situations just mentioned are precisely of the same nature and structure, or whether they do not so far differ from each other as to render it expedient to give them distinctive names. It ap-
pears, from Dr. Darwin's description of what he calls the
summit bulbs of allium magicum, that in every thing but
situation they are exactly similar to the root bulb of that and other kindred plants. "In cutting one of them hori-
izontally," he tells us in his Phytologia, "I observed three
young bulbs inclosed in the concentric fleshy membranes of
the summit bulb in the following manner; five thick, fleshy,
concentric coats of the general summit bulb being taken
away, there appeared one fingle naked small bulb; and on
the sixth coat being removed, two other bulbs became visible, which were included in it." A philosophic view of
all the different methods in which plants are propagated
without the intervention of an impregnated germ; and of
the order in which they are connected together, so as to
form a regular gradation from the germ or proper stem-bud
to the tuber of the common potatoe and the tubercles of
vicia, lathyrides, and many other plants, is one of the
numerous desiderata in vegetable physiology. The history
of bulbs alone would require a long course of experi-
ments.

BUL, in Vegetable Anatomy. This term is commonly
applied to the enlargements of the roots of many herbaceous
plants, which are therefore said to possess bulbous roots. See
Bulbous Roots. The true bulb, however, does not in strict
ness constitute any part of the root, but in its structure and
uses bears a perfect analogy to the bud. See Bud. Bulbs are
in some instances met with in the axillo of the leaves, as in
the lilium bulbiferum, and even in the flower itself, in many
species of allium and agave; but their most usual situation
is upon the root. It is there that they are found in the
hyacinth, tulip, the lilies, the common onion, and a number of
the herbaceous monocotyledons. The root in all these in-
stances is an irregular circular plate, from the lower part of
which proceeds a tuft of the fine or fibrous roots; the upper
part fulfills the bulb.

The bulb is composed of a number of lamine, which are
placed one upon another; and contain in their centre the
embryo of the plant.

When the lamine have not been exposed to the air, they
are thick, and loaded with juices, are generally of a white
colour, and contain chiefly of parenchyma, in which there are
spread some fibres, forming nervures. They resemble very
much etiolated leaves.

When the bulbs have been removed from the earth, and
kept for any length of time in an open and dry situation, the
external layers shrink up, become thin and glossy upon the
surface, and often acquire a brilliant metallic colour.

The lamine in the onion, hyacinth, tulip, and many others,
are covered of circular tunics, the one entirely enveloping the
other; but in the lilies they assume the form of scales, and
more exactly correspond with the covering of buds. See
Plate II. in Vegetable Anatomy; fig. 18, gives the bulb and
root of the onion; a is the bulb, which has the superior part
cut off to bring it into view the concentric layers of which it is
composed; b indicates the circular plate forming the com-
mon centre of the fibrous roots, which are marked by c.
Fig. 19, of the same plate exhibits the bulb of a lily, which
is made of thick imbricated scales; from the base which sup-
ports the scales the fibrous roots take their origin.

The bulby lamine, which constitute the great mass of
all bulbs, are analogous to the scales of the bud, and, like
them, serve to protect the young plant or flower from all
external influences, until the embryo attains a certain degree
of development, or becomes vigorous enough to be nourished
by its own independent actions. The embryo in the bulb,
as in the seed and bud, is always formed in the year pre-
ceding its evolution. Thus we may clearly discern in the
bulb of the tulip, as early as the month of August, the linea-
ments of the flower which is to make its appearance the en-
tering April. See Plate II. of Vegetable Anatomy. Fig. 22,
represents a bulb of the tulip, cut down through the middle in
the month of September; a e the various investments of the
bulb; b c the innermost tunics, thinner than the rest, and
containing the young flower; e the embryo tulip, implanted
as it were in the circular root, which serves as the basis of
all the parts of the bulb; d the circular plate, or common
radicle.

As bulbous plants do not produce buds in the axillo of their
leaves, the circular root, which supports the bulb, gives origin
to small bulbs, which are in many respects analogous to the
lateral bud. They exist, like them, for a certain period in
an immature or embryo state, inclosed by the leaves or tunics
of the parent bulb. They are formed in many species at the
commencement of the season of vegetation; when they be-
come apparent, they are as small as a grain of corn; they
increase at first slowly, but afterwards they grow with
rapidity, and when the flower is ready to blow, they acquire
fibrous roots preparatory to their detachment from the
parent bulb. When the root-buds approach maturity, the
bulb, from whence they arise, ceases to vegetate, and ulti-
mately dies and rots. It is in this manner that the root of a
tulip becomes apparently removed from its situation, the
original bulb being replaced by others which produce the
flowers of the following year.

There are some bulbs, as those of the hyacinth, which fur-
nish, for several years, the lateral bulbs or root-buds; but in
these cases it is only at the end of two or three years that
the small bulbs attain the magnitude of the original one. If,
however, they are detached during the first year, they will
grow independently of the parent bulb, which in this case
does not perish, but continues to exist for several years, and
to produce new effects.

Bulbs, like buds, may be distinguished into leaf bulbs and
flower bulbs; as an example of which, let a seed of tulip be
fowm, it produces in the first summer a plant, which dies in
the autumn, but leaves in the earth one or more bulbs. These
afford stronger plants, the ensuing spring, than those of the
first year, but which do not yet bear flowers. They also
perish in the autumn, and leave behind them other leaf
bulbs, strong or more perfect than those of the preceding
year; and a succession of leaf bulbs is thus generated for four
or five years, until at length the bulb acquires sufficient
vigour for seminal generation; and then it produces, in its
place, a large flower bulb, surrounded by several leaf bulbs.
BULBINE, Plinius, in Bestzey. See Hyacinthus com-
mosus.

Bulbine, Hort. Clf. See Anthericum frutescens
and aloides.

Bulbine, Gmel. See Crinum asiaticum. Gert-
ner's crinum is the agapanthus of 'Hercutier, Schreber, and
this dictionary.

Bulbocastanum, C. Bauh. Townefort. See
Bunium.

Bulbocastanum, bulboi. C. Bauh. See Chero-
phyllum bulbosum.

Bulbo-cavernoi, in Anatomy. See Accel-
ratores urinæ.

Bulbocodium, in Botany. (from Bolsc a bulb, and
Gen. char. Cal. none. Cor. six-petalled, funnel-shaped;
claws very long, linear; throat connecting the petals;
petals lanceolate, concave. Stam. filaments six, awl-shaped,
inferted on the claws of the petals; anthers incumbent.
Pet. germ ovate, awl-shaped, obtusely three cornered, su-
prior; style thread-sided, the length of the filaments; ligmas
three, oblong, erect, channelled. Peric. capsule triangular,
acuminate, angles oblique, three-celled; seeds num-
eros.

Obs. It has sometimes only four flaments and four
petals.

Spec. B. vernum, La March, Iluifl. Pl. 230. (Colchicum
three, lanceolate, enveloped in their lower part by a
thin membranous sheath. Flower little, if at all longer
than the leaves, white at first, but afterwards acquiring dif-
cent shades of purple, rising almost immediately from the
root; borders of the petals arrow-shaped, and their narrow
acuminate segments fo fitted to each other, and so closely
connected, as to give the whole the appearance of a mono-
petalous corolla like that of colchicums. Stamens shorter
than the petals. It flowers early in the spring, and has the
general appearance of the crocus, from which it differs in the
number of its flaments, as does from colchicum in hav-
ing only one style. Lam. Encyc. and fig. A native of
mountainous situations in Spain, the south of France, and
Ruffia. It appears to have been cultivated in England by
Parkinson, so early as 1629, but is now become very rare in
our gardens, its bulbs being tender, and not much inclin-
ed to increase. It may be propagated by offsets like other
bulbous rooted plants, removed soon after the leaves decay,
but this should not be done more than once every three
years. It may also be produced from seed found in the lat-
er end of September, or any part of October, in pots filled
with fresh loamy earth, where they should remain, only va-
rating the tuition according to the season: till the next
summer but one, when as soon as their leaves are de-
cayed, the roots should be taken up, and planted in the bor-
ders of the flower garden. Miller.

Bulbocodium, J. Bauh. hil. See Narcissus pseudo-
Narcissus and N. minor.

Bulbocodium, Raim. ang. See Anthericum seroti-
num.

Bulbocodium, gracium, Town. See Anthericum
gracum.

Bulbocodium, croceifolium, Town. Mil. Icon. See
Ixia Bulbocodium.

Bulbous roots, in Gardening, are such roots as are
composed of bulbs, and which differ essentially from the tu-
herous roots, which consist of an entire solid fleshy substance.
Under this head are comprehended some eulent plants,
such as garlic, onions, leeks, shallots, &c. and a numerous
train of flowery plants, mostly herbaceous perennials, pro-
ducing beautiful flowers, many of them being hardy enough
to succeed in beds and borders in the open ground, and
others in the flower or greenhouse. The principal of the
flowery tribe belong to the following genera: the amaryllis,
including the Guernsey lily, bell-donna lily, Jacobean lily,
&c.; nareiffus, or daffodil, including jonquils, hyacinths,
tulips, frutillaria, and crown imperial lilium, or common
lily, including martagon, ornithogalum, or star of Beth-
lehem; galanthus, or the snow-drop; leucojum, or great
snow-drop; fliella, or fia onion; colchicums, or meadow saf-
tron; alliucia, or bafard star of Bethlehem; muscaria, or
musk and grape hyacinth; iris, the bulbous and perian,
baconnatus, or blood flower; allium, or moly; crocus,
including spring and autumn kinds; bulbocodium, and paen-
trium, or sea daffodil. The different species and varieties
of which are seen under their respective genera.

Bulbous roots may in fact be said to be annual or bien-
nial, as the fame individual root lasts for a certain time only,
in some, not more than a year after having attained a flower-
ning stalk; in others, longer, as previous to their dilution,
they afford from their sides a supply of suckers or offsets to
perpetuate these respective kinds, so that at the end of many
years, what is still often considered as the same individual
root, is in reality another. All bulbous rooted plants re-
nov their leaves and flower flems annually; and their prin-
cipal season for flowering are at different times during the
spring and summer months, some producing their flowers at
one time, and their leaves at another, as in some species of
amaryllis and colchicum; others produce their flowers and
leaves together, as in the hyacinth, tulip, narcissus; and the
leaves and flower flems of all the forpest perished annually at
a certain period after flowering, after which time, the root
becomes in a state of maturity in respect to its growth for a
few weeks, in which new fibres are prepared for the future
plant. This is the proper time to remove the roots, either to
separate the offsets for propagation for planting the roots in
fresh prepared earth, or for removing them to any other
part of the garden or other ground. And, likewise, for
preferring the bulbs out of ground for autumn and spring
planting, when the beds or borders can be more conve-
niently prepared for their reception; for most forst taken
up at this period may be kept out of ground several months;
or if occasion require, some forst admit of being kept out
of the ground from the time of the flowers and leaves de-
caying, until the following spring, as is often practised
when intended for spring planting, to obtain a longer suc-
cession of blooms by succeeding the autumn planting.

Bulbous roots may, however, remain several years unre-
moved, and when greatly increased by offsets be only taken
up at the proper period to separate the increased progeny,
and replanted again as may be necessary. It is, however,
particularly necessary to take up all the choice kinds of bu-
lbous roots annually to separate the offsets for increase, as
well as to prepare the earth of the beds and borders aforehand,
to promote the beauty and merit of the succeeding year's
bloom, especially for the curious tulips, hyacinths, narcis-
sums, &c. The more inferior sorts of bulbous roots should
also be removed every other, or as often as their offsets are
considerably increased in number, which, if permitted to re-
main so long as to increase into large bushes, cramp each
other in growth, and produce small ill nourished flowers of
little beauty.

All the bulbous roots which have been taken up at the
above
above period in summer, should be chiefly planted, where practicable, again in the following autumn, about October or November, as they flower much stronger than when kept out of the ground till the spring season.

The Rev. Mr. Marshall, in his work on gardening, however, directs that autumn flowering bulbs, when their leaves are decayed, should be taken up in May, and that none of the kinds remain long without being taken up, as they are liable to be cramped and confined in their growth, and of course decline in their beauty.

It is recommended as the best practice with flowering bulbs, to plant the spring kinds in the beginning of the autumn, as in the latter end of September, or beginning of the following month; and those of the summer flowering sorts in October, or the succeeding month; and those of the autumn blow in the latter part of July, or in the following month; too early and too late planting being equally to be avoided, as when put in too soon, they are liable to be injured by being too farward when the winter and early spring proves severe, and when delayed too long they are apt previously to exhaust themselves by forming new root fibres.

Bulbous roots of the lamiated kinds, such as lilies, should not be kept out of the soil longer than six or eight weeks; the summer flowering sorts being set at separate periods in the autumn, and in the beginning of the year before the latter end of February, so as to produce a proper succession of flowers.

With others of the same nature, this method is also common, but they should have dry sandy loam in order to stand the winter without rotting, where there happens to be much wet, succeeded by severe frosts. In these cases, the protection of mats and the hunting of peas may often be found useful. When bulbous roots have remained in the ground longer than the proper period, so as to have struck out new roots, they should always be removed with bulbs of earth, as where this is not attended to, they grow weak. On this account, the exact period for removal should be attended to with great care.

The offsets of bulbous roots should in general be put into the ground a considerable time before the periods of planting out the full sized roots: those from lamiated bulbs mostly requiring to be immediately planted.

The soil most adapted to the growth of bulbous roots, in general, is that of a sandy loam where there is no stagnation of moisture below; many sorts of these roots are not however very difficult in this respect, provided there be not an over proportion of moisture. The ground for them should be prepared by digging it to the depth of six, eight, or ten inches, or more, reducing it well in the operation. After this has been done, it should remain a week or ten days before they are put in to become perfectly settled.

In regard to the disposal of these roots in planting, it is generally for the more large and curious sorts in beds a little rounded, of three or four feet in width according to circumstances; or in patches in the common borders, for the smaller kinds, in clusters of three, four, or five together, according to their growth. With the large sorts, such as the white orange lilies, crown imperial, &c., one in a place is sufficient. The roots of fancy flowering bulbs when planted in beds, are usually put in rows, eight or more inches apart, and from five to seven inches distant, in proportion to their growth. Some prefer less room; but where a strong blow is required, these distances are not too great. Hyacinths should in general have the space of seven or eight inches, and tulips eight or nine, though it is often the practice to allow the former not more than five or six inches. The depths of setting roots of the bulbous kinds, are, in general, according to their sizes or growths, as three or four inches from their upper parts. But some sorts, as the crown imperial, and crocus, will rise from a considerable depth, as six inches or more, and others from still greater, which has induced some persons to plant them to such depths as are sufficient to prevent their being injured by digging over the surface ground; but in such cases, they must be liable to rot in wet seasons.

Different methods are employed in planting bulbous roots, as those of putting them in by the dibble, and in drills drawn by a hoe. The latter is in general to be preferred, as they are apt to lie hollow in dibbling, while by placing them in a drill, they may be gently pressed into the soil, and be perfectly covered up. When they are set in the beds, the best method is to draw off the mould to a sufficient depth on one side, leaving the surface perfectly level, watering it a little in dry seasons, and then forming it into proper squares, placing a bulb in the middle of each, covering them with the mould drawn off, so as to leave the bulbs in an upright position. After the bulbs have been put into the earth, if the weather continue very dry, a little water should be sprinkled over the beds or other places, to forward their vegetation, and prevent their rotting. Some protection is necessary in raising the more curious sorts of these roots, as before they appear during the winter, the beds should be sheltered from too much wet, in order to guard against the effects of frost. And when they first present themselves above the ground, they should have the protection of an awning of cloth, mats, or other contrivances, in the nights when the weather is severe; but they should not remain on in the day time, when it is tolerable. Some sort of covering of the fame sort is also necessary when they are in blow to shield them from the sun and rain, and continue them much longer in a perfect state of flowering.

There is a method of getting spring flowering bulbs forward, which is by setting them in pots or glass flasks for the purpose, in warm rooms, or in moderate hot beds, as by these means, they flower in winter. The hyacinth and narcissus, as well as several others, may be managed in this way with facility. These should be placed in pots of light dry sandy earth in autumn, as about the beginning of October, water being occasionally given. They may likewise be put into glass flasks at the same period, and occasionally every three or four weeks, till the latter end of February, in order to have them flower in succession. In this method the bottom of the bulbs should be just immersed in the water, which should be renewed once a week, or oftener, so as to keep it constantly up to the bottom of the bulbs. Soft water is the best for this purpose. The blow is said, by Mr. Marshall, to be considerably strengthened, by dissolving a portion of nitre, about the size of a pea, in the water each time it is changed.

Besides the raising of flowers from root-bulbs in these modes, there are some produced from little bulbs, forced on the sides of the top parts of the stems, as in the bulbiferous lily. These should be taken off about August, and after being dried a little in the sun, planted out in rows in the nursery in the same manner as the offsets.

By these means the various bulbous-rooted plants may be continued; but, in order to produce new varieties, recourse must be had to seed, which should be carefully saved, when fully ripened, from the bell and most curious flowers; and which, after having been hardened a little in the sun, should be sown in boxes of light rich earth, setting them in sheltered sunny situations, but not under covers. This is usually done about the latter end of August, or beginning of the following month, the seeds of hyacinths, tulips, and other large sorts, being covered to the depth of nearly an inch. A little
BULGAR, a mountain of Asiatic Turkey, in the province of Carmania; 30 miles S. of Cogni.

BULGARIA, GR. "the name given by some geographers to a province of Asia, in Ruffian Tartary, situated beyond the Volga, on the banks of the rivers Kama, Bieblik, and Samara, but now incorporated into the dominions of Russia, and forming part of the government of Caucasus. Its ancient capital was Bulgar, Beloger, Belgar, or Bargar, which lay 30 versts below the mouth of the Kama, and 5 from the Volga; but according to other accounts the Volga flowed by the town. Bargar was first ravaged by the Tartars in 1234, and in 1500 entirely destroyed by the Russians. See Bulgarians.

Bulgaria, Lit. a province of European Turkey, bounded on the north by the Danube and Walachia, on the east by the black sea, on the south by Mount Haamus, which separated it from Romania and Macedonia, and on the west by Servia. It was formerly called the Lower Myria, but derives its present name from the Bulgarians, by whom it was occupied. Its extent is about 280 miles in length and 180 in breadth. The country in general is mountainous, but the plains and valleys, washed by the Danube and rivers that flow into it, are rich and fertile, and produce corn and wine in great abundance. Its ancient capital was Tarnova, but its kings principally resided at Nicopoli; but its present capital is Sophia. It now forms a part of the Ottoman empire. The inhabitants are mostly Christians of the Greek church, ignorant and superstitious, having one patriarch and three archbishops, subject to the authority of the patriarch of Constantinople. They are intermixed, however, with Turkish Mahometans and Jews. Their language is the Slavonic, (which fee,) but in pronunciation differing little from the Servian. The country is divided by the Turks into four Sangiakhkips, viz. those of Vidin or Widin, Sardic comprehending Sophia, Nicopoli, and Shilibla. The present inhabitants, though descended from ancestors who disinguished themselves by their martial achievements, are occupied in grazing, agriculture, and handicrafts. This country is famous for a gate, constructed by the emperor Trajan in the hills south of Sophia, among steep rocks and precipices almost inaccessible, in commemoration of his having marched with his army along a road formed by himself through places that were before impervious. It consists of two stone pillars, with an arch over them, representing a gate; but is now in a mutilated and ruinous condition.

Bulgarians, or Bulgarians, in Ancient History, a tribe of Scythians, who are supposed have inhabited Asiatic Scythia and the countries lying north of the Caspian sea, near the Volga, whence it is said they obtained the name Volari, which was changed into Bulgar; and thence their country was denominated Volgaria and Bulgaria. Others, however, reject this etymology, alleging that the Volga was anciently called Rau, or, in Arabic. Idel, and deduce the appellation of Bulgarians either from their famous and large city Belgar, or from the denomination of Bulgarians which they assumed. The Bulgarians, after having extended their borders along the Don and the Yarik, about the Volga and the Kama, carried on a great trade to Persia, Bucharia, India, Greece, and even to Italy and France, by the Iuicine. They also traded considerably with the Russians, and, by their instrumentality, with the northern nations. Bulgaria was therefore, in former times, the emporium of the European and Asiatic commerce. The Bulgarian empire fell afterwards under the dominion of the Tartars, and when the Russians conquered the
the Tartars, became subject to Russia. Their country was rich and extensive; its borders extended along the Volga, from the mouth of the Oka downwards to the Kholbites, or Nether-Bulgarians, where they had their peculiar sovereignties; and the Azov or Volisaks, along the Kama, were under their supremacy. It is not known how far it reached westward, and on the Don; however, the ‘Tscherniplies and Tschuvashches were subject to them. Their language was the Sarmatic. The ruins of large towns and stone buildings are evidences of their opulence, their civilization, and their industry; and the coins that are dug out of the earth, with Arabic and Indian inscriptions, demonstrate their extensive commerce.

It was not till the reign of Zeno, about the year 485, that they began to be heard of and dreaded by the Romans. Ennodius, the most ancient writer who mentions them, informs us, in the panegyric which he composed on Theodoric, king of the Ostrogoths, that they were a warlike and numerous nation, enured to the toils of war, ever ready to prefer death to slavery, and never known to have been put to flight, till they engaged this hero. From Aisatic Scythia and other countries which they occupied, they advanced, in quest of a more fertile country, to the Tanais, and from thence, in the reign of Zeno, to the banks of the Danube, under the conduct of their king or leader Bladimir. Having passed this river, they made an irruption into Thrace, with a view of settling in that country; but they were opposed by Theodoric, the Ostrogoth, at that time general of the Roman troops in that province, and compelled to repass the Danube. In 489, they made a successful irruption into Thrace and committed dreadful ravages, and defeated the army of the emperor Anastasius, commanded by Arilutus, which was sent to refit them. Three years after this expedition they again invaded Thrace, and carried off an immense booty, of which they plundered the province. In 539, the 13th year of the emperor Justinian, they made an incursion over the Danube into Moesia, defeated the Roman troops, and were retreating with their spoils and captives, after having destroyed by fire and sword what they could not remove, when they were attacked by Justinian’s army under the command of an experienced officer, and obliged to surrender their booty and to save themselves by flight. However, in the following year they again entered Thrace, which they plundered and laid waste; but they were routed with great slaughter, and the loss of many prisoners. For these victories the emperor assumed the appellation of “Bulgarianus,” which appears on his coins. Hillory gives no account of them till the reign of Justinian III. or V. (Blair) furnaced Pogonatus, which commenced in the year 608. In his time they passed the Danube, and entering the Roman territories, committed great devastations in the provinces bordering upon that river. They were fiercely opposed by the powerful army of Justinian, and left at full liberty to ravage the open country at pleasure. At length, in 678, Justinian agreed to pay them an annual pension, on condition of their not infesting the Roman territories, and joining his forces against all other barbarians, wherever he required their assistance. About this time some of them settled in the dukedom of Benevento.

It is said that Justinian allowed them to settle in Lower Moesia, to which they gave the name of Bulgaria, which this province still retains. Other writers, however, suppose that they had settled there several years before the reign of Justinian. In 687 Justinian II., refusing to acquiesce in the treaty stipulated with them by his father, invaded their country, and reduced them to great distress; but the Bulgarians, animated by despair, determined to make a last effort in defence of their liberties; and falling unexpectedly upon the emperor’s army, put it to flight, and obliged him to confirm his father’s treaty. In 713 they made an irruption into Thrace and advanced to the gates of Constantinople, and after having ravaged the country, returned home, with an immense booty, unmolested. When Constance Copronymus, in the 9th year of his reign, A.D. 749, ordered forts to be built on the borders of the provinces, adjoining the country of the Bulgarians, they renounced; but their ambassadors were dismissed with a disdaining answer. Upon this the incensed Bulgarians made a sudden irruption into the Roman territories, and having laid waste the country, returned home loaded with booty. The emperor collecting his forces marched against them in person; but whill he was laying waste their country, they took advantage of attacking him in a narrow path, obliged him to fly, and pursued him with great slaughter to the gates of Constantinople. In the years 763 and 775 the Bulgarians suffered great injury in their contests with the Romans; but upon the accession of Leo IV. A.D. 775, he concluded a peace with their king, whose daughter Irene he had married; but his son and successor Constanzt Porphyrogenitus, in the 12th year of his reign, A.D. 791, deluded by some ambassadors, attacked the Bulgarians, and was totally defeated. The Bulgarians renewed their irruption into the Roman provinces in the reign of Nicephorus; and the emperor retaliated by marching with a large army into their country and ravaging it with fire and sword. The ambassadors of the Bulgarians, who were sent to him to sue for peace and to request his leaving their country, were treated with scorn; upon which their king Crumus, actuated by despair and the thirst of revenge, began to fortify all the passes through which the emperor was to retire, and then proceeded to attack the Roman camp. This he forced, flew the emperor, and cut off almost his whole army. The savage conqueror ordered the head of Nicephorus to be strung off, and after having exposed it to public view, he inclosed the skull in silver, and used it in all grand entertainments instead of a cup. In 811 Michael I. ascended the throne, and a peace was concluded between the Romans and Bulgarians; but it was of very short duration. Crumus, offended by the treacherous escape of some Roman prisoners, levied a considerable army, entered the Roman territories, and assisted by an Arabian in the use of military engines, reduced several fortified places, and ravaged the whole country. Among other cities which he reduced, he made himself master of Mesembria, in the vicinity of Mount Hsemus, and put the garrison to the sword. The emperor prepared for an engagement, and the two armies met in the neighbourhood of Constantinople. After a furious conflict of doubtful issue, the Romans were utterly defeated; and Michael retired to a monastery, and resigned the purple to Leo V. A. D. 813. The Bulgarians, wanting triumphing in their success, refused to listen to any pacific overtures; and a second engagement took place, in which the Romans, after an obstinate resistance, were routed. But whilst the Bulgarians were busily engaged in plundering the Roman camp, Leo renewed the fight and obtained a complete victory. The Bulgarians remained for five years in a state of tranquillity; but at length, in the year 877, they took occasion to re-enter the Roman territories, and in their usual manner to ravage them with fire and sword. A battle ensued, and the Roman army was routed. The prisoners were led by the victor in triumph round his camp, and having caufed their noses to be cut off, he sent them, thus defaced, to Constantinople. After subsequent advantages gained on
the part of the Bulgarians, and repeated defeats and severe losses sustained by the Romans, Adrianople was besieged and taken, A.D. 972; and preparations were made for besieging Constantinople. But, before the close of the following year, an interview took place between Theodosius, the king of the Bulgarians, and Romanus the eastern emperor, and a peace was concluded between them. In the year 972 the Ruffi or Rossii, who inhabited the present Podolia, invaded Bulgaria and ravaged the country; but having invaded Adrianople with a powerful army of more than 300,000 men, they were defeated and cut to pieces by a body of 12,000 Romans. The Bulgarians submitted to Zamfes, their deliverer; but upon his death, A.D. 975, they revolted from the Romans and renewed their usual ravages of their provinces. After a long and difficult struggle between the Bulgarians and the emperor Basil, he at last prevailed, and, in the 44th year of his reign, A.D. 1018, reduced Bulgaria into the form of a Roman province. From this time the Bulgarians remained in subjection to the emperors of Constantinople, whom they profited in both against the Turks and the Turks, and were, on that account, allowed to choose a king of their own nation, who nevertheless owned himself a vassal of the empire. The Bulgarians, however, revolted again in the reign of Isaac Angelus, A.D. 1185. In 1275, Stephen, the fourth king of Hungary, having vanquished the prince of Bulgaria and cut his whole army in pieces, obliged the Bulgarians to acknowledge him as their sovereign. With the assistance of the Greek emperors they shook off the Hungarian yoke; but attempting, in 1396, to recover Adrianople, which had been taken by the Turks, they were totally defeated by Amurath I.; and Bajazet, who succeeded Amurath, made an absolute conquest of the whole country in 1396, and reduced it to a province of the Turkish empire, in which it has continued ever since. Anc. Un. Hist. vol. xvii. Gibbon's Hist. Decl. and Fall of the Roman Emp. vol. vii. ix. x. xi.

BULGARIAN Language, the same with the SCALONTO, which &c.

BULGNEVILLE, in Geography, a town of France, in the department of the Vosges, and chief place of a canton in the district of Neufchateau, 31 leagues south of it. The town contains 9,555, and the canton 19,883 inhabitants. The territory comprehends 262½ square miles and 27 communes.

BULIA, or BULIS, in Ancient Geography, a maritime town of Greece, in the Pheacie, situate towards the gulf of Corinth, near the frontiers of Aetolia. It had two temples, one of Bacchus and another of Diana; the statues of which were formed of wood.

BULIMIA, in Medicine, a term signifying excessive hunger, from bulus, a particle denoting excess, and λυσις, hunger. It is also called fames cunic, fames lupina, dog's appetite, wolf's appetite, &c. This symptom occurs in cafes where the food is not retained long enough in the stomach to be digested, as in cafes of habitual vomiting, and in insomnity; also where the aliment, duly prepared or concocted in the stomach, is nevertheless but scantily conveyed into the circulation, as in the case of worms, and obstruction of the mesenteric glands; and it is said that this symptom occurs where much acidity is present in the alimentary canal. Savages, with his usual superstition, has enumerated seven different species of bulimy; but in most of the instances which he has mentioned, it is rather to be regarded as a concomitant of other disorders, than as a distinct and specific affection. Ruyseh gives an instance of this complaint, which was connected with a dilatation of the pylorus, in consequence of which the food slipped through the stomach into the intestines, before there was time for digestion to take place; and it is recorded by Lienhart, that upon opening the body of a patient who had died of a disorder, in which a voracious appetite was a leading symptom, he discovered a preternatural termination of theculus cholechochus in the stomach. In this case the bile effused into the stomach seems to have kept up a confluent irritation in that organ, and to have stimulated the stomach to expel the ingesta before they could be duly acted upon by the principal agent in the work of digestion, the gastic fluid.

From these observations it is evident: that the plan of treatment must be varied, according to the diversity of the morbid conditions with which it is connected. Thus, when it is the consequence of an immediate rejection of the food by vomiting, the irritability of the stomach should be counteracted by mild glutinous food, by opiates, tonics, &c., aided by stimulant epitetms, and other topical applications. At the same time nutritive enemata should be injected into the intestines. In like manner, when it is the consequence of the food passing off too rapidly by stool (as in lentency), the remedies adapted to that condition of the body should be referred to. (See LENTENCY.) If it proceed from worms, calomel, jalop, cowitch, and other anthelmintics, should be preferred; if from melenicteric obfuration, rhubarb, neutral febiles, and afterwards chalybeates; and, lastly, when it arises from acidity in the stomach and intestines, biters and abominales should be given.

After this view of the various causes of bulimy, and of the treatment as adapted to each of those causes, we shall proceed to notice some remarkable and well-authenticated instances of this affectation. In 1700 there lived at Stanton, seven miles from Bury, a labouring man of middle age, who for many days together had such an inordinate appetite that he would eat up an ordinarq leg of veal, roasted, at a meal. He would eat raw-thistles, and various other herbs, as greedily as cattle are wont to do; and all he could get was little enough to satisfy his hunger. He voided several long worms. This case is related by Dr. Burroughs, in the 22d vol. of the Phil. Trans. Two other cases are recorded in the 43d vol. of the fams Transactions, one by Dr. Mortimer, the other by Dr. Cookson. The subjects of this affectation were in both instances boys. The first of them was 12 years old, and lived at D idle Barnsley, in Yorkshire. His appetite was so ravenous, that if he was not supplied with food when he craved it, he would gnaw the very flesh off his own bones. When awake he was constantly devouring. Nothing pafled his roach; it was always thrown up again. In the space of six days he devoured 354 lbs. of liquid and solid food. The other boy was 10 years old, and had been feized with a fever about 15 months before, which continued for a fortnight, and was followed by constant vomitings. As in the former case, so in this, the food was no sooner swallowed than thrown up again. In the space of six days this boy devoured 371 lbs. of meat and drink, besides 1 lb. 10 oz. of salt. After more than a twelvemonth from the first attack, he died greatly emaciated.

In the third vol. of the Memoirs of the Medical Society of London, is inserted the history of a case of bulimy, accompanied with vomiting, wherein 379 lbs. of meat and drink were swallowed in the space of six days, yet the patient lost flesh rapidly. A cure was effected by giving food boiled down to a jelly, frequently, and in small quantities. In this form the food was retained, and the body being duly supplied with nourishment, the stomach and intestines recovered their proper tone and energy. But the most extraordinary instance of bulimy which perhaps ever occurred, is that
that recorded in the third vol. of the Medical and Physical Journal, communicated by Dr. Johnfon, commissioneer of sick and wounded men, to Dr. Blane, formerly physician to the navy. The subject was a Polish folder, named Charles Domery, in the service of the French, on board of the Hoche frigate, which was captured by the squadron under the command of Sir J. Borlase Warren, off Ireland, in 1710. He was 21 years of age, and stated that his father and brothers had been remarkable for their voracious appetites. His began when he was 13 years of age. He would devour raw and even live cats, rats, and dogs, besides bullock's liver, tallow-candles, and the entrails of animals. One day (viz. September 7th, 1759) an experiment was made of how much this man could eat in one day. This experiment was made in the presence of the before-mentioned Dr. Johnfon, admiral Child, and Mr. Porter, agent for prisoners at Liverpool, and several other gentlemen. He had breakfasted at four o'clock in the morning on 4 lbs. of raw cow's udder; at half past nine o'clock there were put before him 5 lbs. of raw beef and 12 tallow candles of 1 lb. weight, together with 1 bottle of porter; these he finished by half past ten o'clock. At one o'clock there were put before him 5 lbs. more of beef, 1 lb. of candles, and 3 bottles of porter. He was then locked up in the room, and fenciers were placed at the windows to prevent him from throwing away any of his provisions. At two o'clock he had nearly finished the whole of the candles, and great part of the beef; but without having had any evacuations by vomiting, stool, or urine; his skin was cool, pulse regular, and spirits good. At a quarter past six he had devoured the whole, and declared he could have eat more; but the prisoners on the outside having told him that experiments were making upon him, he began to be alarmed. Moreover, the day was hot, and he had not had his usual exercise in the yard. The whole of what he consumed in the course of one day amounted to:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw cow's udder</td>
<td>4 lbs.</td>
</tr>
<tr>
<td>Raw beef</td>
<td>10 lbs.</td>
</tr>
<tr>
<td>Candles</td>
<td>10 lbs.</td>
</tr>
</tbody>
</table>

Besides 5 bottles of porter.

The eagerness with which this man attacked his beef when his stomack was not gorged, resembled the voracity of a hungry wolf; he would tear off large pieces with his teeth, roll them about his mouth, and then gulp them down. When his throat became dry from continued exercise, he would lubricate it by slipping the grace out of a candle between his teeth; and then, wrapping up the wick like a ball, would send it after the other part at a swallow. He could make shift to dine on immense quantities of raw potatoes or turnips, but his choice would rather taste bread or vegetables. He was in every respect healthy, 6 feet 3 inches high, of a pale complexion, grey eyes, long brown hair, well made but thin, his countenance rather pleasant, and he was good tempered. His evacuation by the bowels was by no means proportioned to the quantity of food he devoured, and even did not exceed that of other men; but his periphrases were profuse, not only when in bed, but also when up and eating. To the profusion of this evacuation, Dr. Johnfon, and the other medical gentlemen, have ascribed the rapid diffusion of the ingesta, and his incessant craving for fresh supplies of food. It does not appear that he had wounds.

BULINUS HEMASTOMUS, in Catechology. See Turbo Hemastomus.

BULITAGA, in Geography, a range of mountains which separates the empire of Ruflia from Perhia. N. lat. 43° 30' to 51° 15' E. long. 72° 14' to 73° 14'.

BULITHOS, lapis bexinctus, a calculus or stone found in the gall-bladder, kidneys, or urinary bladder of oxen. Influences hereof are given by Brunelli, the Academy Nature Curiatorium, and other naturalists, by which it appears that Aristotol was mistaken in alleging, that man alone is subject to the stone, and inquiring solicitously into the reason hereof. Arith. Probl. x. n. 42.

BULK of a ship, denotes her whole content in the hold for cargo or goods.

BULK, to break. See Breaking.

BULK-heads, are partitions made across a ship, or lengthways, with boards of timber, whereby one part is divided from another. The bulk-head afore is the partition between the fore-castle and gratings in the head, and in which are the chaise-ports.

BULKA, in Geography. See Bulcau.

BULKLEY, Charles, in Biography, a Protestant dissenting miller, was born in London in 1710, educated in Dr. Doddridge's academy at Northampton, whither he removed from Cheffer in 1739, and commenced preacher in 1742. After some time he settled in London, where he was baptized by immersion, and joined the general Baptists. After having conducted his labours with ability and reputation, in connection with a congregation of this description, for a long series of years, during which he succeeded the eloquent Dr. Fother in his lectures at the Old Jewry, he died in 1797, in the 75th year of his age. Besides several single sermons, preached on particular occasions, he published "Discourses on several Subjects," 1752; "A Vindication of Lord Shaftesbury's Writings," 1753; "Notes on Lord Bolingbroke's Philosophical Writings," "Observations on Natural Religion and Christianity," candidacy proposed in a Review of the Discourses lately published by the Lord Bishop of London, in 5 volumes; "Economy of the Gospel," 4 vols. 1764; "Discourses on the Parables and Miracles of Christ," 4 vols. 1770; "Catechetical Exercises," 1774; "Preface to Notes on the Bible," 1791; &c. Evans's Funeral Sermon, 1797.

BULL, in Astronomy, the constellation Taurus, which for

BULL, Dr. John, in Biography, was born about 1560, in Somersetshire, and became, by his great abilities on the organ and virginal, the wonder of his time. Indeed, the prosperous reign of queen Elizabeth was, perhaps, not rendered more illustrious by the musical productions of Tallis, Bird, and Morley, than the performance of Dr. Bull. His music-master was William Mithman, organist of the chapel royal to queen Elizabeth, in which capacity he held a very high rank. Bull, on the death of his master, in 1591, was appointed successor to the queen's chapel; and in 1592, at the recommendation of his majesty, he had the honour of being the first that was appointed a music-professor to Gresham college. And though unable to compose and read his lectures in Latin, according to the founder's original intention, such was his favour with the queen and the public, that the executors of Sir Thomas Gresham, by the ordinances, bearing date 1597, dispensed with his knowledge of the Latin language, and ordered, "The solemn music lecture to be read twice a week in manner following, viz. the theoretical part for one half hour, or thereabouts, and the practice by concert of voice or instruments, for the rest of the hour: whereas the first lecture should be in the Latin tongue, and the second in English." But because at this time Mr. Doctor Bull, who is recommended to the place by the queen's most excellent majesty, being not able to speak Latin, his lectures are
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people to be altogether in English so long as he shall continue in the place of music lecturer there." Ward’s Lives of the Professors of Gresham College, Pref. p. viii. The first lecture read by Bull, at Gresham college, was printed the same year that it was pronounced, under this title: "The Oration of Master John Bull, Doctor of Musick, and one of the Gentlemen of his Majestie Royall-Chappell, as he pronounced the same, before divers worshipful persons, the Aldermen and Commoners of the citie of London, with a great multitude of other people, the 6th day of October, 1597, in the new erected Collidge of Sir Thomas Gresham, Knt. deceased: made in the commendation of the founder, and the excellent science of Musick." Imprinted at London by Thomas Ege.

At first, application was made to the two universities, by the lord mayor and corporation of London, jointly with the mercers’ company, left trustees of this institution, to nominate two persons in all the liberal arts fitly qualified to read lectures in their several faculties; but this application was not continued, as some jealously seems to have been awakened at Oxford and Cambridge, left this new college should be prejudicial to those ancient seats of learning.

What effect this liberal foundation had on other faculties let the friends and patrons of each particular science say; but as to music, it is hardly possible to read the lives of the professors without lamenting that the design of so noble an institution, established on such an extensive plan, should be so entirely frustrated as to become wholly useless to that city and nation for whose instruction it was benevolently intended. Dr. Bull, the only person on the list of music professors, who seems to have been able to inform by theory, or amuse by practice, those who attended the musical lectures, resigned his professorship in 1607. Indeed, during more than a year of his professorship, Mr. Thomas Bird, son of the venerable William Bird, exercised the office of a substitute to Dr. Bull, while he travelled on the continent for the recovery of his health. So that except about nine years from the date of the establishment, to the present times, it does not appear that the science of sound, or practice of the musical art, has been advanced by subsequent professors. For in the following list, given by Dr. Ward, up to the year 1240, including Dr. Clayton, elected 1607; John Taverner, 1610, who was no relation of the musician of that name; Richard Knight, 1638; William Petty, 1650, afterwards the famous Sir William Petty; Dr. Thomas Baynes, 1660; William Perry, 1681; John Newy, 1666; Dr. Robert Shippen, 1703; Dr. Edward Shippen, his brother, 1712; John Gordon, 1723; and Thomas Brown, 1739; though all men of learning and abilities in other faculties, yet no one of them had ever distinguished himself, either in the theory or practice of music; nor are any proofs remaining that they had ever studied that art, the arca of which they were appointed to unfold! What an abuse of reason and munificence does it feem, that those who had never meditated on the art, or been taught, themselves, should be fixed upon to teach, and direct the studies of others!

A silly story has been told by Anthony Wood (Falli Oxon. vol. i. c. 131) concerning a feat performed by Dr. Bull, who, at St. Omer’s, when he first visited the continent, to a composition originally written in forty parts, added forty more in a few hours; which is so improbable, as not to be worth relating.

After the decease of queen Elizabeth, he was appointed organist to king James. And July the 16th, 1607, when his majesty and prince Henry dined at Merchant-Taylors’ hall, the royal guests were entertained with music, both vocal and instrumental, as well as with several orations. And while his majesty was at table, according to Stow, "Mr. Doctor Bull, who was free of that company, being in a citizens gowne, cappe, and hood, played most excellent melody upon a small p阃e of organs placed there for that purpose only." (Chron. p. 891. ed. 1615.) In December, of the same year, he resigned his professorship of Gresham college, but for what reason does not appear, as he continued in England several years afterwards.

In 1613 he quitted England, and entered into the service of the archduke, in the Netherlands. He afterwards seems to have been settled at Lubeck, at which place many of his compositions in the lit published by Dr. Ward, are dated; one of them as late as 1622, the supposed year of his decease.

Dr. Bull has been censured for quitting his establishment in England; but it is probable that the increase of health and wealth was the caufe and consequence. Indeed he seems to have been prais’d at home, more than rewarded; and it is no uncommon thing for one age to let an artifl flave, to whom the next would willingly erect statues. The professorship of Gresham college was not then a finecure. His attendance on the chapel royal, for which he had forty pounds per annum, and on the prince of Wales, at a similar salary, though honourable, were not very lucrative appointments for the first performer in the world, at a time when scholars were not so profitable as at present; and there was no public playing, where this most wonderful musician could display his abilities, and receive their due applause and reward.

A lit of more than two hundred of Dr. Bull’s compositions, vocal and instrumental, is inserted in his life, which, when it was written in 1740, were prefixed in the collection of Dr. Pepusch. The chief part of these were pieces for the organ or virginal, which we have seen and examined, having been transcribed into queen Elizabeth’s virginal book, and printed in a collection called Parthenia. An In nomine, of five parts, we have scored from the Church Church set of manuscript books, in Dr. Aldrich’s collection, and have attentively perused his choral composition in the collections of Dr. Treway and Dr. Boyle, which is the same verfe anthem, with different words, for two voices, with a chorus. In all this vocal music that we have seen, there seems to be much more labour and study than genius. Tallis and Bird had so long accustomed themselves to write for voices, that the parts in their compositions are much more natural and flowing than those of Bull. In looking at the single parts of Tallis and Bird, there are notes and passages which appear wholly insipid and unmeaning, as melody; but which, when heard in harmony with any other part, produce admirable effects.

Indeed, possessed as he was of such extraordinary powers of execution on keyed instruments, we have been frequently astonished, in perusing Dr. Bull’s lefions, at the few new and pleasing passages which his hand suggested to his pen. It has been said, that Dr. Pepusch preferred Bull’s compositions to those of Couperin and Scarlatti, not only for harmony and contrivance, but air and modulation: an assertion which rather proves that the doctor’s taste was bad, than Bull’s music good. Though we should greatly admire the hand, as well as the patience, of any one capable of playing his compositions; yet, as music, they would afford us no kind of pleasure: ce font des notes, et rien que des notes; there is nothing in them which excites rapture. They may be heard by a lover of music with as little emotion as the clapper of a mill, or the rumbling of a post-chaise.

After such frequent mention of the extreme difficulty of these old pieces, in mercy to modern performers, it may with truth
truth be said, that the loose, to refined ears, would not be very
great, if they should for ever remain unplayed and unde-
ciphered. For being generally built on some old and vulgar
psalmody tunes, unmeaning in themselves, the crowded har-
mony and multiplied notes with which they are loaded, have
not rendered them more pleasing. Indeed the infallible
consequences of a young practitioner flowing such tune
and labour on them as may be necessary to subdue the diffi-
culties of execution they contain, would be corruption of
taste, and neglect of more useful studies.

The instrumental music of queen Elizabeth's reign seems
to partake of the pedantry and foppishy of the times:
eterial fugues upon dry and unmeaning subjects were the
means of establishing reputation for learning and contribute;
as dull divisions and variations, in which the change was
generally from bad to worse, seem to have been the only
qualifications which entitled a professor to eminence for style
and invention.

The very terms of canon and fugue imply restraint and
labour. Handel was perhaps the only great fuguiler, except
from pedantry. He seldom treated barren or crude subjects;
his themes being almost always natural and pleasing. Se-
bastian Bach, on the contrary, like Michael Angelo in
painting, disdained facility so much, that his genius never
flopped to the easy and graceful. We never have seen
a fugue by this learned and powerful author upon a motive,
that is natural and abounding; or even an easy and obvious
passage, that is not loaded with crude and difficult accompa-
niments.

As the youth of Bull must necessarily have been spent in
subduing the difficulties of other composers, he seems, in his
riper years, to have made the invention of new difficulties of
every kind, which could impede or confound a performer, his
fugue study. It seldom happens that those perfected of great
natural force of hand, on any instrument, submit to the
drudgery of much dry study; but this gift was so far from
relaxing the labour and diligence of Dr. Bull, that he entered
deeply into all the arcana of the art, and pedantry of the
times, than most of his contemporaries. That he was "ex-
quisitely skilled in canon," has been given as one of the most
irrefragable proofs of his being a great musician; and canons,
residet rotur, and per asini et beotum, in triangular, and other
fantastical forms, are carefully preserved, as stupendous spe-
cimens of his abilities.

Walsingham has been a subject upon which Dr. Bull and
Bird have exercised their abilities in the most elaborate man-
ner. In the fifteenth century, popular tunes were the
foundations upon which the greatest contrapuntists constructed
even the masses which they set to music; and in the next, the
English, no longer in want of these tunes in the church,
polished and tricked them up for the chamber, with every art
and embellishment they could devise.

Both Bird and Bull have likewise worked on the hexa-
chord, ut re mi fa sol la, ascending and descending; upon
which theme they have constructed elaborate and ingenious
lessons, of the most difficult execution. That of Bull has
passages for the left hand, which perhaps none but himself
could play during his own time, and which we have never
seen introduced in any compositions of the present century,
except those of Sebastian Bach; or heard executed, but by
Pallaga, near forty years ago; who must have vanquished them
by the incessant labour of several years, out of his short
life; for he was then but eight years old. A new, but
similar difficulty, has lately been devised for keyed-instru-
ments, in the rapid divisions for one hand, in dittones, which
great application only can vanquish. The execution of long
and rapid divisions of thirds and sixths; and even of common
chords, is not frequently wanted in modern music, and there-
Bull.

However, escape the mimadversions and cenures of several Pluriform writers. Five years after the completion of this book, the author was preferred to the valuable rectory of Avebury, in Gloucestershire. Soon after, in 1688, he was prorogued by archbishop Sancroft, to the archdeaconry of London, and in consideration of his eminent services to the university of Oxford, conferred upon him the degree of doctor in divinity. During the reign of James II. he preached with great ardour against the errors of popery. In 1663, he published his “Judicium Ecclesie Catholicæ, &c.” in defence of the anathema, decreed by the first council of Nice. For this work the author received the thanks of the whole body of the clergy of France; though, considered as the vindication of an anathema, which condemns some of the highest ornaments of literature and Christian truth both in and out of the church, it will not now be regarded as entitling Dr. Bull to any very distinguishing commendation. The last treatise written by this learned author, was his “Primitive Apologetic Tradition of the Doctrine received in the Catholic Church, concerning the Divinity of our Saviour Jesus Christ, asserted, and evidently demonstrated, against Daniel Zurchick the Priftinum, and his late Followers in England.” All his Latin works, published by himself at different times, were collected and printed in 1753, in one volume, folio, by Dr. J. E. Grabe, with a preface and annotations. In 1765, Dr. Bull was promoted to the bishopric of St. David’s, and taking his seat in the house of peers, in the session, when the bill passed for the union of both kingdoms, he bore testimony in favour of the church of England, as being “in her doctrine, discipline, and worship, most agreeable to primitive and apologetic institution.” He resided constantly in his diocese, and carefully discharged all the episcopal functions; but in 1770, he closed his laborious and useful life at Brecknock, the customary place of his residence, where he was interred, leaving behind him a widow and two children, the survivors of eleven. His constitution was naturally firm and vigorous; but his most unusual application had to a considerable degree impaired it before the close of his life. His temper was lively, irritable, and inclined to melancholy; nor does he seem to have been entirely free from a tincture of superstition. He was remarkable for the firmness of his mind, and for an habitual sense of religion, which influenced his conduct after the first devotions of his youth. His learning was recommended by the modesty that accompanied and adorned it; and his patience, piety, and Christian hope were signally exemplified during the painful paroxysms of the disease that terminated his life. Bishop Bull’s sermons and larger discourses were published in 1713; by Mr. Neilton in three volumes, 8vo. The first of these volumes contains two sermons on the intermediate state, which were re-published in 1765 by the late professor Chappelow, and which have been animadverted upon by the author of the “Historical View of the Controversy concerning the intermediate State, &c.” All the bishop’s works have been published together, in folio, by Mr. Neilton, who also published his “Life” in 1717, 8vo. Biog. Brit.

Bull, in Ecclesiastical Writers, denotes an instrument dispatched out of the Roman chancery, sealed with lead; answering to the edicts, letters patent, and provisions, of secular princes.

The bull is thus described by Matthew Paris, anno 1257: “In bulla domini pape flat image Paulo a destinis crucis in medio Bulla figurae, et Petri in fingura.”

The word bull is derived from bulla, a seal; and that from bulla, a drop, or bubble: or, according to others, from the Greek, βοῦς, κονίλ: according to Pezron, from the Celtic bull, or bull, a bubble.

We meet with four kinds of these bulla or bullæ; golden, silver, waxen, and leaden; all in use among the emperors and kings of the middle and barbarous ages. In form, the impression is made on the solid metal itself; in others on wax; and only enclosed in a metalleous box, or case.

Sealing with metals is an illustrious privilege, belonging only to princes, though assumed also by prelates, as princes of the church. The doges of Venice durst not arrogate this honour, till leave was given them by pope Alexander III. about the year 1170, to seal their diplomas with lead.

The bull is the third kind of apostolical rescript, and the molt in use, both in affairs of justice and of grace. It is written on parchment; by which it is distinguished from a brief, or simple signature, which is on paper. A bull is properly a signature enlarged: what the latter comprehends in a few words, the former dilates and amplifies.

If the bulls be letters of grace, the lead is hung on filken threads; if they be letters of justice, and executory, the lead is hung by a hempen cord. They are all written in an old roman or Gothic letter.

The bull, in the form wherein it is to be dispatched, is divided into five parts; viz. the narrative of the fact; the conception, that clause; the date; and the fiatulation, in which the pope takes on himself the quality of “servant of the servants of God,” that is, a servant of God.

Properly speaking, it is the seal or pendant lead alone that is the bull: it being that which gives it both the title and authority. The seal presents, on one side, the heads of St. Peter and St. Paul; on the other, the name of the pope, and the year of his pontificate.

By bulls, jubilees are granted: without them no bishops in the Roman church are allowed to be consecrated. In Spain, bulls are required for all kinds of benefices; but in France, &c. simple signatures are sufficient; excepting for bishoprics, abbeys, dignitaries, and priories conventual. According to the laws of the Roman chancery, no benefices, exceeding twenty-four decans per annum, should be conferred without bulls; but the French would never submit to this rule, except for such benefices as are taxed in the apostolical chamber: for the rest, they reserve the right of disvaluing the benefit, expressing it in general terms: Conus & illi foro annorum fravius 24 decanorum auri de cantari, frommund cummum aminationem, velibem annum non exsect.

The bulls brought into France were limited and moderated by the laws and customs of the land, before they were registered; nor was any thing admitted till it had been well examined, and found to contain nothing contrary to the liberties of the Gallican church: those words, proprio motu, in a bull, were sufficient to make the whole be rejected in France. Nor do the Spaniards admit the papal bulls implicitly; but, having been examined by the king’s council, if there appear any reason for not executing them, notice thereof is given to the pope by a supplication; and the bull, by this means, remains without effect: and the like method of proceeding with the court of Rome is observed by most of the other courts of Europe, in the papal comission.

To culminate bulls, is to make publication thereof, by one of the three commissioners to whom they are directed; whether he be the bishop or official. This publication is sometimes opposed; but when it is, the fault is not charged on the pope who issued the bull; but an appeal is brought
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to him against the person who is supposed to make it; thus the fault is laid, where it is known not to be just, to evade affronting the pontiff. See Fulmination.

The bull in cena Domini, is a bull read every year on Maundy-Thursday, in the pope's presence; containing various excommunications and excretations against heretics, those who disfigure the see, who disurb or oppose the exercise of ecclesiastical jurisdiction, &c.

After the death of the pope, no bulls are dispatched during the vacancy of the see, to prevent any abuses; therefore, as soon as the pope is dead, the vice-chancellor of the Roman church takes the seal of the bull; and in the presence of several prelates, orders the name of the deceased pope to be erased; and covers the other side on which are the heads of St. Peter and St. Paul, with a linen cloth, sealing it up with his own seal, and giving it, thus covered, to the chamberlain, to be preferred, that no bulls may be sealed with in the mean time.

These decrees of the pope are often mentioned in our statutes, as 25 Edw. III. 28 Hen. VIII. c. 15; and 2 Ph. and M. c. 8; and 13 Eliz. c. 2. They were formerly used, and of force in this country; but by Stat. 28 Hen. VIII. c. 16, all bulls, &c. obtained from the bishop of Rome are void; and by 13 Eliz. c. 2. (see also 23 Eliz. c. 1.) the precuring, publishing, or using of any of them is high treason.

Bull, golden, is a denomination peculiarly given to an ordinance, or statute, made by the emperor Charles IV. in 1356, laid to have been drawn up by that celebrated lawyer, Bartoli, and still reputed the magna charta, or fundamental law of the empire. It was composed and published at a diet convoked by the emperor at Nuremberg; and is thus called from a golden seal fixed to it, such as were used by the emperors of Constantinople, annexed to their edicts.

Till the publication of the golden bull, the form and ceremony of the election of an emperor were dubious, and undetered; and the number of electors was not fixed: this solemn edict regulating the functions, rights, privileges, and pre-eminences of the electors. The original, which is in Latin, on vellum, is kept at Frankfort. On the back side of it there are several knots of black and yellow flax, to which hangs a bull, or seal of gold. It is pierced through the middle with a golden wire, the ends of which are fastened by a seal of gold, about the size of a half crown, one side exhibiting the figure of Charles IV. upon a throne, and the reverse, a kind of gate, inscribed "Aurea Roman." On the exergue are these words: "Caroli IV. Rom. Iap. dim. Augustus, rex Bohemiae." This is prefixed in a square wooden box. This ordinance, containing thirty articles, was approved of by all the princes of the empire, and remains still in force. The election of the empire is by it declared to belong to seven electors; three of them ecclesiastics, viz. the archbishops of Mentz, Treves, and Cologne; and four seculars, viz. the king of Bohemia, prince Palatine, duke of Saxony, and marquis of Brandenburg.

Bull, Caroline, a famous constitution published by Charles IV. A.D. 1359, which cancelled all the statutes or regulations that had been made to prejudice of ecclesiastical liberty, and denounced the severest penalties against those who should aggrieve the persons of the clergy. It was issued in order to pacify pope Innocent VI., who had been alarmed and offended by some plans of reformation which the emperor had adopted. With a view of reforming the German clergy, he communicated to the bishops the measures he had taken for this purpose, and threatened to debar the revenues of those who should refuse to obey his orders. The pope, believing the honour and liberty of ecclesiastics at stake, desired the emperor to forbear meddling with the reformation of the clergy, which was his province, and inflicted upon his refractors what the secular noblemen had at different times suffered from ecclesiastics. This circumstance occasioned the publication of the Caroline bull.

Bulls, golden, were set in use among the eastern emperors for a considerable time, leading being confined to matters of a smaller moment. Spelman mentions a golden bull, in a treaty of alliance with our Henry VIII. and Francis I. of France; the same author relates, that the instrument, whereby Clement VII. gave king Henry VIII. the title of Defender of the Faith, had golden bulls affixed to it; and there are other influences in Du Cange and Alphenna.

Bulls, silver, were not in so frequent use, though influences of them are not wanting.

Bulls, leaden, were sent by the emperors of Constantinople, to despots, patriarchs, and princes; and the like were also used by the grandees of the imperial court, as well as by the kings of France, Sicily, &c. and by bishops, patriarchs, and popes. Polydore Virgil makes pope Stephen III. the first who used leaden bulls, about the year 772. But others find influences of them as early as Sylvestre, Leo I. and Gregory the Great. The later popes, besides their own names, strike the figures of St. Peter and St. Paul on their bulls; a practice first introduced by pope Pachial II.

Bulls, waxen, are said to have been first brought into England by the Normans. They were in frequent use among the Greek emperors, who thus sealed letters to their wives, mothers, and sons. Of these there were two sorts, one red, the other green. Du Cange, Gloss. Lat. tom. i. § Gloss. Græce. Montfacon, Palæolog. lib. vi.

Bull of Phalaris, or Perillus, a brazen bull made by Perillus the Athenian, to flatter the cruelty of Phalaris, tyrant of Agrigentum, for the purpose of tormenting criminals. It was formed in the shape of that quadruped, and when perfumes were inhaled in it, fire was applied, and their cries are said to have resembled the roaring of a bull. Perillus is said to have been the first who suffered in it, for having extorted too great a recom pense for the construction of it. Phalaris himself was punished by the people of Agrigentum for his cruelty, by being put to death, as some say, in his own bull. When Hannibal took the city, this bull, among other treasures and valuable curiosities, was sent to Carthage; and it was afterwards referred to the Agrigentines by Scipio, when he took Carthage, in the third Punic war. Cic. l. iv. in Verrem. c. 33.

Bull, in Geography, a large rock in the Atlantic ocean, about three miles W. of Durley island, on the coast of the county of Kerry, Ireland. N. lat. 51° 33'. W. long. 10° 59'.

Bull, a rock near the west point of the island of Rag- liu, in the North channel, about seven miles N.W. of Fairhead, in the county of Antrim, Ireland. N. lat. 53° 19'. W. long. 6° 10'.

Bull, North and South, two banks of sand in the bay of Dublin, Ireland, between which lies the small sand banks, called the bar. There are buoys to mark these banks, but notwithstanding every improvement of the harbour, and every precaution, they sometimes occasion shipwrecks.

Bull, in Rural Economy, an animal of much importance to the flock farmer. For the purposes of the breeder the head of the bull should, according to Mr. Culley, "be rather long, and the muzzle fine; his eyes lively and prominent, his ears long and thin, his horns white; his neck, riding:
BULL

rising with a gentle curve from the shoulders, and small and fine where it joins the head; his shoulders moderately broad at the top, joining full to his chine, or crops and chelt backwards, and to the neck vein forwards; his bosom open, breast broad, and projecting well before his legs, his arms or fore thighs muscular, and tapering to his knee; his legs straight, clean, and very fine-boned; his chine and chelt to fail as to leave no hollows behind the shoulders, the plates strong, to keep his belly from sinking below the level of his breast; his back or loin broad, straight, and fat, his ribs rising one above another in such a manner, that the last rib may be rather the highest, leaving only a small space to the hips or hooks, the whole forming a round or barrel-like carcase; his hips should be wide placed, round or globular, and a little higher than the back, the quarters from the hip to the rump long; and instead of being square, as recommended by some, they should taper gradually from the hips backwards, and the turf or pott-bones not in the least protuberant; rumps slope to the tail, the tail broad, well haired, and set on so high as to be in the same horizontal line with his back.

This is an animal chiefly kept for the purpose of propagation, though he is capable of being subjected to the yoke; but there is no certainty of his working quietly; and the use he may make of his prodigious strength should constantly be guarded against. Bulls are for the most part naturally unrulable, stubborn, and fierce; and frequently in the bulling season absolutely furious and uncontrollable; however, by education, they may be rendered perfectly tame and quiet, without the least diminution of their strength. They also often grow larger, more heavy and unwieldy, and become more adapted to labour, as well as more tractable, by this operation. See Ox and CATTLE.

The disposition of these animals is, however, shown to depend greatly upon the manner in which they are reared by the practice of Mr. Bakewell, who had all his bulls fo tame and gentle, that they could be managed with the greatest facility.

Among the Ancients, those who triumphed, sacrificed a bull, when they arrived at the capitol. Bulls were offered to Apollo and Neptune. It was held a crime to sacrifice them to Jupiter, though we do not want instances of that practice.

Bulls were ranked by the Romans in the number of military rewards.

Bull, African, in Natural History, a small wild bull, common in that part of the world, and supposed to be the true bubalus of the ancients. See Bubalus.

Bull's blood, fresh drawn, is said to be a powerful poison, as coagulating in the stomach. This is related on the authority of Pliny, xxviii. 9. and xi. 38. and many persons among the ancients, such as Aslon, Mida, Hannibal, and Tullus the Tulous, are said to have been poisoned by it. But the fact has been questioned by some, and denied by others. See Apollodorus, lib. i. cap. 27. Strabo, lib. i. p. 106. Plutarch in Hannib. and Valer. Maxim. vol. vi. ext. 5.

Bull's gall, is an intense bitter, more pungent and acrimonious than that of any other animal; whence it is sometimes used to destroy worms.

Bull, bannal, denotes a bull kept by a lord, who has a right to demand all his tenants to bring their cows to be served by him.

Bull, free, according to Du Cange, signifies the same with bannal bull. Hence tauri liberis libertas; which, however, should rather seem to denote a privilege of keeping a bull independent of the lord.

Bulls, wild. The wild bulls, now so numerous on the continent of America, are said to have sprung from one bull and seven cows, which were carried thither by some of the first conquerors.

In the island of Hispaniola, the French buccaneers pursue bulls with dogs, and kill them with fire arms. See Buccaneers. At Buenos Ayres, the Spanish toradores chase them on horseback, armed with a long lance, at the end of which is a half-moon of sharp steel. Having drawn a number of the horned kind together, they let the cows escape, but dexterously take the bulls with their half-moons on the hind-legs, by which, disabling them from flight, they are easily dispatched.

Bull-baiting. See Baiting.

Bull-fighting, a sport or exercise much in vogue among the Spaniards and Portuguese, confining in a kind of combat of a cavalier or torador against a wild bull, either on foot or on horseback, by riding at him with a lance. The Spaniards have bull-fights, i.e. feasts, attended with fheaves, in honour of St. John, the Virgin Mary, &c. This sport the Spaniards received from the Moors, among whom it was celebrated with great eclat. Some think, that the Moors might have received the custom from the Romans, and they from the Greeks. Dr. Plott is of opinion, that the fourioned bulls amongst the Thessalians, who first instituted this game, and of whom Julius Cesar learned and brought it to Rome, were the origin both of the Spanish and Portuguese bull-fighting, and of the English bull-running. Nat. Hist. Staff. chap. x. § 76.

The practice was prohibited by pope Pius V. under pain of excommunication, incurred into fact. But succeeding popes have granted several mitigations in behalf of the toradors.

Mr. Gibbon, in his "History of the Decline and Fall of the Roman Empire," (vol. xi. p. 421.) has extracted from Muratori (Script. Rec. Ital. tom. 12.) an account of a bull-feast, which was celebrated in 1332, after the fashion of the Moors and Spaniards, in the Coliseum at Rome. The nobles were invited by a general proclamation, communicated as far as Rimini and Ravenna, to execute their skill and courage in this perilous adventure. The Roman ladies were marshalled in three squadrons, and seated in three balconies, which were lined on this occasion with scarlet cloth. When the company was collected and arranged, the lots of the champions were drawn by an old and respectable citizen; and they descended into the arena, or pit, to encounter the wild bulls with a single spear. Amidst the crowd, the annalist has selected the names, colours, and devices, of 20 of the most conspicuous knights. Several of the names are the most illustrious of Rome and the ecclesiastical state; the colours were adapted to their taffie and situation; and the devices are expressive of hope or despair, and breathe the spirit of gallantry and arms. The combat of the amphitheatre were dangerous and bloody. Every champion successively encountered a wild bull; and the victory may be ascribed to the quadrupeds, since no more than eleven were left on the field, with the loss of nine wounded, and eighteen killed on the side of their adversaries. Some of the nobles families might mourn, but the pomp of the ceremonies in the churches of St. John Lateran, and Maria Maggiore, afforded a second holiday to the people.

Similar combats with bulls in the amphitheatre, have been justly regarded as a striking feature of Spanish and Portuguese manners. Some have supposed that these spectacles, by rendering bloodshed familiar to the people, tend to deaden sensibility, and to make the national character ferocious and brutal. Others think, that they form an antidote to timidity, and as a means of cherishing resolution and valour. But theories of this kind are not justified by facts.
faits. Modern Italy, it is said, has no gladiators, but numer-
ous assailants; whereas ancient Rome had scarcely one
assailin, but whole armies of gladiators. As far as it re-
pects the national character, it seems to be of little mo-
moment, whether bulls be killed by butchers or by cham-
pions; and it is well known, that such spectacles have little or no
influence on the disposition, because they are attended by peo-
ple of all ages and stations, and yet they neither give
to the fede, and boldness to the timid, nor make
any alteration in the mildness of their manners. The bull-
ights of Spain and Portugal attract a crowd of spec-
tators, and yield very considerable sums of money to those who
undertake and conduct them, of which part is appropri-
ated to the purpose of defraying the expence of horses and bulls,
and of paying the hire of the toreros; and part is applied
to the support of religious and charitable establishments.
These entertainments have formed one of the chief funds of
the hospital at Madrid. The bulls that are selected for these
combats are of a peculiar breed, and the connoisseurs can rea-
dily distinguish by a view of them where they have been bred.
The arena, where these shows are exhibited, is a kind of circus
surrounded by ranges of seats, one above another; and the
highest of them is covered. The lower part of the edifice is oc-
cupied by boxes. At Valladolid, which has no circus appro-
priate to these sights, the principal square is converted into a
theatre, and the balconies of the adjoining houses are made to
project in such a manner as to accommodate the numerous
spectators that assemble on these occasions. The spectacle
commences by a kind of procession around the square, in
which the combatants appear both on horseback and on
foot; and they are preceded by two alguazils on horseback,
who are deputed to obtain of the president of the show an
order for its commencement. Upon a certain signal, the
animal appears; and the officers of justice by hastily with-
draw, give notice to the speculators that their cruel pastime
is about to begin. The bull is received, on his appearance,
with loud shouts; and the contest is begun by the
"picadors," who are mounted on horses and dressed in the
ancient Spanish mode, each of them being armed with a long
lance. To the honour of this part of the combat, which
requires strength, courage, and dexterity, several perfons of
rank occasionally aspire. When the bull darts upon these
combatants, without any previous irritation, his courage is
applauded; and if in spite of the pointed weapon which re-
false his assailant, he returns to the charge, the shouts of the
spectators are redoubled, and their joy seems to transport
them into enthusiasm; but if the bull is timid, and avoids
his persecutors, he is hoasted at and hissed by the speculators,
and insulted with reproaches and blows by those who are
near him. If these modes of provocation are insufficient to
rouse his ferocity, large dogs are let loose upon him, which
seize him in a furious manner by the neck and ears; and
which he teethes into the air, so that they fall to the ground
flamed, and sometimes mangled. At length, however, the
combat is renewed, and the animal, overcome by his affil-
ants, perishes ignobly. If the animal manifests spirit and
fierceness, the picador pierce him with their lances; and thus
irritated, he furiously attacks the horse which carries the
combatant, rips up his sides, and overturns him and his ri-
der. The picadors thus difmantled and endangered, are
relieved by other combatants on foot, called "Chulos," who
divert the animal's attention by shaking pieces of dif-
ferently coloured cloth before him; the provoked animal
purifies; and they escape merely by their agility. Some-
times they are under a necessity of throwing themselves over
a barrier that encloses the arena. When this barrier is
fingle, the bull pursuing the chulo, sometimes jumps over
Vol. V. it, and causes great consternation among the spec-
tators on the lower benches, so that in their precipitance for es-
caping, they suffer as much as they might have done from
the fury of the animal, who, however, becomes incapable
of this kind of pursuit. The picador, when effectually
reduced, mounts his horse, or if the first horse be killed or
become unfit for service, procures another, and continues the
combat. When the picadors have sufficiently tormented the
bull, they withdraw, and leave him to the irritation of the
combatants on foot. These latter, denominated "banderil-
eros," go before the animal; and when he aims at them,
they plunge into his neck darts, called "banderillas," with
hooked points, and ornamented with small streamers of col-
doured paper. The fury of the bull is now renewed; he
roars and tosses his head, and aggravates by the violence of
his motion, the pain occasioned by his wounds: and in this
situation, the agility of his adversaries is signalally displayed.
The danger that threatens them alarms the speculators; but ac-
customed to this kind of combat, they secure themselves
by their address and dexterity. When the vigour of the
bull is almost exhausted, and he is bathed with blood, and
the people are anxious to witness the combat of another vic-
tim, the president of the entertainment signals the signal of
death, which is proclaimed by the sound of trumpets. The
"matador" then advances; and holding a dagger in one
hand, he waves before his adversary with the other hand a
kind of flag. They both stop and gaze at one another;
and the speculators are again amused for some time by the
impetuousness of the bull, and the agility of the matador.
The assembled observers witness this scene in profound
silence: and the matador coolly dispatches the furious animal
by a blow, where the spinal marrow joins the head. The
death is bloodless and inanes, and deferves imitation,
as humanity would wish to save pain to the animals
slaughtered for food. When the animal falls, a thousand
voices proclaim with loud shouts the triumph of the con-
queror. If the blow is not decisive, and the bull survives,
murmurs succeed applause, and the matador is regarded
only as an unskillful butcher. When the tragedy termi-
nates, three mules ornamented with bells and streamers ap-
pear, and the bull is dragged by means of a rope tied
round his horns from the arena. Sometimes the bull is
pierced in various parts with lances, to which spurs are
fastened, which being set on fire, the maddened animal
stands pawing the ground while he draws in and exhales
volumes of smoke. Sometimes an American is introduced,
who, after the manner of hunting the wild bull in his own
country, throws a rope round the horns, and entangling him
as in a net, then kills him with perfect safety.

On each of the days set apart for these entertainments,
fix are thus sacrificed in the morning, and 12 in the af-
noon: at least this is the case at Madrid. The three last
belong exclusively to the matador, who, unaided by the
picadors, exerts his ingenuity to diversify the pleasures of
the speculators. The Spanish government are not inflexible
of the moral and political inconveniences arising from this spec-
ies of frenzy. So far from encouraging, they discourage
it, whilst it would be dangerous precipitately to abo-
lish it. The court itself formerly reckoned it among the
number of its festivals, which occurred at certain periods.
The theatre of them was the "Plaza-Mayor," and they
were honoured with the presence of the king and royal fa-
ymily; and his guards presided there in good order. His
halberdiers formed the interior circle of the scene; and their
long weapons, held out in a defensive posture, were the only
barrier which they opposed against the dangerous caprices
of the bull. These entertainments, which by way of ex-
cellence
bulls, that endeavoured to-polish the nation, and to direct the public attention to useful objects, was very defective of suppressing a tale from which inconvenience sprang; but he was too wise to employ violent means for this purpose. He, however, confused the number of bull-fights to those, the profits of which were applied to some charitable institutions, with a design of substituting to these other funds afterwards. Bull-fights being thus rendered less frequent, will, perhaps, gradually lose their attraction, until more favourable circumstances allow the entire abolition of them.

**Bull-running**, denotes a scandal custom obtaining in the honour of Tullbury in Staffordshire, where anciently, on the day of the Assumption of our lady, a bull was turned loose by the lord to the minds race, if they could catch him before he palled the river Dove, were to have him for their own, or, in lieu thereof, to receive each forty pence; in consideration of which custom, they pay twenty pence yearly to the lord. *Plat. Nat. Hist. Staff.*

**Bull and baw.**—By the custom of some places, the parson is obliged to keep a bull and baw for the use of his parishioners, in consideration of his having tithes of calves and pigs, &c. 1 Kol. Abr. 550. 4 Mod. 241.

**Bull-comber**, in Entomology. See *Scarabæus Typhæus*.

**Bull-dog**, in Zoology, a kind of mastiff upon a smaller scale; with a somewhat flatter front, and a greater ferocity of aspect. The bull-dog is remarkable for the unadorned and savage pertinacity with which he provokes and continues the fight; and when he has fixed his bite, is with much difficulty disengaged from his antagonist. This is the dog employed in the barbarous diversion of bull-baiting. See *Canis*.

**Bull's eye**, in Aeronautics. See *Aldebaran*.

**Bull's eye**, in Meteorology. See *Scarabæus Typhæus*.

**Bull's eye**, in Sea language, denotes a sort of small oval block without heaves, made of hard wood. It is turned in a lathe, has a groove round the outside, and an oval hole gouged through the middle. These blocks are used instead of blocks and iron thimbles; but, indeed, they are very seldom used at all.

**Bull-finch**, in Ornithology. See *Loxia Pyrrhula*.

**Bull-frog**, in Zoology. See *Rana Catesbiana*, and *Ocellata*.

**Bull-bay river**, in Geography, lies to the east of Port Royal, or Kingston harbour, in Jamaica, between Caney river and Four-mile wood.

**Bull and cow**, rocks near the south coast of Newfoundland. N. lat. 46° 55'. W. long. 53° 42'.

**Bull Sand**, lies about a league S. W. from the Spurn point, or eastern entrance of the Humber, on the coast of Yorkshire, between which and the point is a fine channel of ten or eleven fathoms.

**Bull's barrow and island**, or Seewc bay, lies on the coast of South Carolina, in North America, to the south-west from Cape Carteret. The entrance of the harbour, which is within the island, is at the N. E. end of it, having a small island within that: between them is a palaige, in N. lat. 32° 56', and W. long. 78° 24'.

**Bull-head**, in Geography, a cape of Ireland, on the north side of Dingle bay in the county of Kerry, near three miles S.E. of Dingle. W. long. 10° 4'. N. lat. 52° 6'.

**Bull-head**, in Ichthyology, is a trivial English name applied most commonly to that small kind of fish which we distinguish farther by the name of *river-bull-head*, (*Cottus Gobio Linna.*) Another fish of the same genus, *Cottus cataphractus* is called the *armad-bull-head*; this last lives in the ice.

**Bull-trout**, an English name for a fish of the salmon kind caught in many of the rivers of England; it is also called the *feur*. See *Salmo Trutta*.

**Bull-roar**, in Botany. See *Scirpus fluviatilis*.

**BULLIA, in Antiquity**, a golden ornament, of a globular figure, and generally supposed to have been hollow within, wherein was contained some amulet, to serve as a preservative from witchcraft and envy, hung about the neck by those who triumphed among the Romans; and also by the children of the patricians, and even *ingenii*, as a badge of their hereditary nobility and freedom, by which they might be animated to behave themselves in a manner worthy of their birth. Authors are divided in their opinions about the form of this ornament, which the Sabine women, in acknowledgement of that increase of wealth and power for which Rome was indebted to them, were allowed to hang about the necks of their children. Plutarch (in Romul.) says, that they resembled the little bubbles which are formed by the drops of rain, when they fall upon running water. Hence it has been inferred, that they were hollow and light; others think that they were half globes, flat on one side, and globular on the other. Some have supposed, that they were originally made in the shape of a heart, in order to prompt their wearers to the acquisition of wisdom; and others say, they were round, with the figure of a heart engraved on them. The form, in process of time, is said to have varied from a complete circle to that of a segment. Such was the shape of the golden bulla lately found at Manchecomber; and as this had no aperture by which an amulet could be introduced, Mr. Whitaker (Hist. Manchecomber, vol. i. p. 79) concludes, that they were not hollow; and he supposes, that they were intended at first rather as amulets than as ornaments; alleging that they were frequently impressed with the figure of the sexual parts. As to their origin, it has been affirmed by some, that they were first introduced by Romulus, and that he gave one of them to Tullius Hostilius, the first child born of the rape of the Sabines. Others ascribe the introduction of them to Tarquin the elder, who gave a bulla to his son, at the age of 1, together with the prætexta, because he had killed an enemy; and hence it was afterwards assumed by other patricians. But Macrobius says, that Tarquin extended the right of wearing this ornament to all the children of the patricians; and that accordingly he began with his own.

The bulla was not allowed to the children of slaves, or even of *liberti*, who, in lieu thereof, wore a leather collar round the neck, much after the manner of the purple ring to which the bulla was hung. But the great veltal, and the Roman ladies, wore a bulla; the former by way of ditionet, the latter as a piece of drefs. We may add, that bullae were sometimes allowed to statues; whence the phrase, "flature bullata." M. Lepidus, having killed an enemy, and faved a citizen, even when a boy, had a "bullated" statue erected to him in the Capitol, in memory of the exploit. The Roman youth laid aside the bulla, together with the "prætexta," and consecrated it to the Lares, when they arrived at their fifteenth year; as appears from the faction of the "cum primum":

"Cum primum pavido cullos mihi purpura celsit, Bullaque fuccinatius Laribus donata pependit." 

Perf.
BUL


**Bulla** was also a denomination given to divers other metallic ornaments made after the form of bulla.

In which sense, bulla seem to include all golden and silver ornaments of a roundish form, whether worn on the habits of men, the trappings of horses or the like. Such were those decorations used by the ancients on their belts and doors. Virgil, speaking of Pallas’s belt or girdle, says:

"Notis fulcruent cinqua bullis"

Pallantis pura.†

**Bullaria** is, in Conchology, a species of **Voluta**, the shell of which is cylindrical, very glabrous, reddish, with somewhat livid belts; spire obtuse; pillar-lip with four plaitts within; aperture oblique. Chemnitz. Inhabits the Indian seas.

**Bullata**, in Conchology, a species of **Solin**, the shell of which is roundish, inflated, and slightly pointed; anterior part of the shell retained open by the crenatures with which it is becet.—This shell inhabits the American seas, and it is believed those of India also. The shell is thin, somewhat pellucid, longitudinally striated, white, and spotted or clouded with purple. Hinge with a single tooth. Marginal teeth remote, compressed, and inserted in a kind of hollow in the opposite valve.

**Bullatus**, a species of **Conus**, the shell of which is yellow, clouded with white. *Linn.* Native place unknown. Adanson calls it **Potam**.

This shell is thin, sometimes of an uniform colour, but more frequently spotted, clouded, or striped; aperture of the mouth for the most part large, and blunt.

**Bulla**, in Geography, a town of Switzerland, in the canton of Fribourg, where the insurgents of Gryeres assembled in 1781, in order to concert measures for obtaining a redress of grievances; 10 miles S. of Fribourg. N. lat. 46° 40'. E. long. 6° 54'.

**Bullenmeer**, a town of Germany, in the circle of Wellphalia, and county of Oldenburg; 18 miles N. of Oldenburg.

**Buller**, Cape, a cape of South Georgia, to the west of the bay of islands, and about 7 leagues from Cape North, nearly E. of it. S. lat. 53° 58'. W. long. 27° 45'.—Allo, a cape on the coast of Terra del Fuego island, in S. lat. 53° 58'. W. long. 67° 45'.—Allo, a cape on the coast of New Britain, in the East Indian ocean. S. lat. 45° 56'. E. long. 157° 25'.

**Bullers**, or **Bouliers** of Buchan, a natural harbour, on the east coast of Scotland, about 6 leagues N. from Aberdeen, and 2 S. from Peterhead. It is only frequented by fishermen, and formed by a rock of an irregular oval form, projecting into the sea from the middle of the bay to the distance of 100 yards. Vessels of all sizes may shelter here from the weather; but landing is impracticable. It derives its name from boiling, on account of the turbulence of the water.

**Bullies**, a small town of France, in the department of the Oise and district of Clermont, seated on the river Brecue, and celebrated for its fine flax and linen; 2 leagues N. W. of Clermont.

**Bulllet**, an iron or leaden ball, or shot, wherewith firearms are loaded. Some derive the word from the Latin.

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*Helix heliotoides*

**Bulla regia,** or **Bullaria** of Ptolemy, in Ancient Geography, a free town of Africa, on the route from Carthage to Hippo, between Simiutta and Nuce Aquilline. Anton. Itin.

**Bullace-tree**, in Botany. See *Prunus insititia*.

**Bullæum**, in Ancient Geography, a town of the Silures in Britain, placed by Camden at Bualt or Bulth in Brecknockshire, by Baxter at Caerphilly, and by Horshay at or near Uik in Monmouthshire: thus uncertain is its situation.

**Bullan-bay**, in Geography, a bay on the west coast of Ireland between the northern part of the Isle of Achill and the main land of the county of Mayo.

**Bullanspaur**, a town of Hindoostan, in the hilly country of Calhore, seated near the river Setle, 159 miles E. of Lahore, and about N. 26° E. 60 geographical miles from Sirhind. N. lat. 31° 31'. E. long. 76° 40'.

**Bullarii**, in the court of Rome, the makers or drawers of bulls or constitutions. See *Bull*.

**Bullary, Bullarium*, a collection of papal bulls.

We have extant divers kinds of bullaries; some containing only the bulls of particular popes; such are the bullaries of Innocent XII. and Clement XI. Others contain the bulls granted to particular communities; such is the bullary of the order of Cluny, &c.

A general bullary of all the papal constitutions from Gregory VII. to Sixtus Quintus, was compiled by order of pope Sixtus Quintus, in 1586; since which has been published a great bullary, by Laert. Cherubin, containing the bulls of all the popes from Leo in 440, to Paul V. in 1559; since continued by Ang. Cherubin to the year 1644, and by Ang. a Lantufca and Jo. Paulo to the year 1676; and, lastly, by an anonymous editor to the time of Benedict XIII. under the title of "Bullarium magnum Romanum." We have a few digested in a new method by Buochardus; a commentary on it begun by Vinh. Petra, and a summation of it by Novarius. Fabric. Bibl. Med. Avvi. Lat. lib. ii. tom. i. p. 816. 582.

**Bullata, in Conchology, a species of Voluta, the shell of which is cylindrical, very glabrous, reddish, with somewhat livid belts; spire obtuse; pillar-lip with four plaitts within; aperture oblique. Chemnitz. Inhabits the Indian seas.**
BULLETS, others from the Greek βαλλειν, to throw. Bullets are of various kinds, viz. red-hot bullets, made hot in a forge; intended to set fire to places where combustible matters are found. See Shot.

Hollow bullets are shells made cylindrical, with an aperture and a fuse at one end, which giving fire to the inside, when in the ground, bursts, and has the same effects with a mine.

Chain-bullets, consisting of two balls, joined by a chain three or four feet apart.

Branch-bullets, two balls joined by a bar of iron five or six inches apart.

Two-headed bullets, called also angels, being two halves of a bullet joined by a bar, or chain, are chiefly used for cutting of cords, cables, stakes, &c.

Quarter-bullets. See Quarter.

The diameter of a leaden bullet, weighing one pound, is 1.66 inches, according to Sir Jonas Moore; or by a table in Muller's "Treatise of Artillery" (p. 50), 1.672 inches; and the diameter of any other bullet is found by dividing 1.66 inches by the cube root of the number, which expresses how many of them make a pound; or by subtracting continually the third part of the logarithm of the number of bullets in the pound from the logarithm .2278867 of 1.66, and the difference will be the logarithm of the diameter required.

Thus the diameter of a bullet, of which 12 make a pound, will be found by subtracting .3597479, a third part of 1.0791812 the logarithm of 12, from the given logarithm .2278867; or because this logarithm is less than the former, an unit must be added, so as to have .2278867; and then the difference .861507 will be the logarithm of the diameter found, which is .738 inches, observing that the number found will be always a decimal, because the number subtracted is greater than the other.

We may also deduce the diameter of any bullet from its given weight, provided that the specific gravity of lead is known; for, since a cubic foot of lead weighs 11.25 pounds, and 67.8 is as 3.55 as the cube of a foot or 12 inches, i.e. 1728, to the content of a sphere, which is therefore 5929.7 ounces; and since spheres are as the cubes of their diameters, the weight 5929.7 is to 16 ounces, or one pound, as the cube 1728 is to the cube of the diameter of a sphere, which weighs 16 oz. or 1 lb.; which cube is 4.66263, and its root is 1.6796, the diameter sought.

By the rule above laid down is calculated the following table, shewing the diameters of leaden bullets, from 1 to 39 in the pound.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>9</th>
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<tbody>
<tr>
<td>0</td>
<td>1.69</td>
<td>1.441</td>
<td>1.171</td>
<td>1.034</td>
<td>0.907</td>
<td>0.804</td>
<td>0.733</td>
<td>0.677</td>
<td>0.630</td>
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<tr>
<td>1</td>
<td>0.841</td>
<td>0.765</td>
<td>0.704</td>
<td>0.643</td>
<td>0.591</td>
<td>0.550</td>
<td>0.515</td>
<td>0.490</td>
<td>0.471</td>
</tr>
<tr>
<td>2</td>
<td>0.61</td>
<td>0.645</td>
<td>0.693</td>
<td>0.742</td>
<td>0.80</td>
<td>0.866</td>
<td>0.945</td>
<td>1.039</td>
<td>1.145</td>
</tr>
<tr>
<td>3</td>
<td>0.549</td>
<td>0.592</td>
<td>0.645</td>
<td>0.708</td>
<td>0.782</td>
<td>0.870</td>
<td>0.978</td>
<td>1.099</td>
<td>1.240</td>
</tr>
</tbody>
</table>

N. B. The upper horizontal column shews the number of bullets to a pound; the second, their diameters; the third, the diameters of those of 10, 11, 12, &c. and the fourth, those of 20, 21, 22, &c. and the last thereof of 30, 31, 32, &c.

The government allows eleven bullets in the pound for the proof of muskets, and 14.5 in the pound, or 29 in two pounds for service; 17 for the proof of carbines, and 20 for service; and 28 in the pound for proof of pistols, and 34 for service. The diameter of musket bullets differs but 1-50th part from that of the musket-barrel; for if the shot but infl rolls into the barrel, it is sufficient. Cannon-bullets or balls are of different diameters and weights, according to the nature of the piece.—See Caliber and Shot.

The first mention of iron-bullets in the "Faedera" occurs A.D. 1570, in an antiquity for delivery of the artillery and ammunition of Boulogne; and yet stone-bullets remained in use considerably later than this time.

According to Merians, a bullet, shot out of a great gun, flies 92 fathoms in a second of time, which is equal to 589.5 English feet; and, according to Huygens, it would be 25 years in passing from the earth to the sun; but according to some very accurate experiments of Dr. Derham, it flies, at its first discharge, 710 yards in five half-seconds; or about 7 miles in a minute; allowing therefore the sun's distance 95000000 English miles, a bullet would be near 26 years in its passage at the full speed.

Bullets shot into the water undergo a refraction; several experiments concerning which are given by Mr. Carré. Vide Mem. Acad. Scienc. ann. 1705, p. 277.

The extraction of bullets from wounds is an operation described by chirurgical writers. Bullets sometimes remain easy in the body during many years.

Swallowing of musket-bullets is sometimes practised to remove haemorrhage and colic pains. Mr. Young gives a case wherein this had a terrible effect: the bullet happening to miss its way down, instead of the osophagus, got into the trachea. Mr. Chirac has a dissertation on the question, which of the two is safer in like cases, to swallow leaden bullets, or crude mercury? He gives the preference to the bullets. Phil. Trans. No. 263.

Bullet-moulds consist of two concave hemispheres, with a handle whereby to hold them; and between the hemispheres is a hole, called a gate, at which to pour in the melted metal. The chops or hemispheres of bullet-moulds are first punched, being blood-red hot, with a round-ended punch, of the shape and size of the intended bullets. To cleanse the inside, they make use of a bullet-bore.

Bullet-bore, is a steel COX, having a globule at one end, wherewith to bore the inside of a mould, clean of the size intended.

Bullet-iron, a denomination given by some to Spanish or Swedish bars of iron.


DULLEYN, William, of a respectable family of the same name, in Suffolk, was born in the Isle of Ely, in the early part of the reign of Henry the eighth. At a proper age he was sent to Cambridge, which he quitted, probably after taking his bachelor's degree, and went to Oxford, where he applied himself to the study of medicine, and read the Greek and Arabian writers, in both which languages he appears to have been tolerably skilled. While resident there, he made excursions through the neighbouring countries, paying great attention to the plants that he had found recommended in the cure of diseases; and after taking the degree
degree of doctor, he extended his excursions, travelling over the greatest part of England and Scotland. He afterwards visited the continent, with the same view. On his return, he was made rector of Blaxhall in Suffolk, through the interest, probably, of his family, and practiced medicine there. On the accession of queen Mary, he removed to Durham, thinking it more safe, being a protestant, to live at that distance from the court. He lived here in great intimacy with sir Thomas Hilton, governor of Tintern fort, and became a scholar, or joint proprietor of the falt pans. Sir Thomas dying under his care of a putrid fever, he fell into such disgrace, that he found it necessary to remove from Durham, and Mary being dead, he came to London; but the vengeance of the family pursuing him, he was taken up, arraigned, and tried for the murder of his friend; and though he easily cleared himself from the imputation of this crime, he was continued in prison, at the suit of the prosecutor, the brother of sir Thomas, for a debt due to the family. While in prison, he tells us, he wrote the greater part of his medical works. Having at length discharged his debt, he returned to London, was made a member of the College of Physicians, and acquired considerable reputation for his skill in the practice of medicine, which he enjoyed to the time of his death, January 7, 1576. His recitory he gave up, at the time of his quitting Blaxhall. He was an ancestor, Granger says, of the late Dr. Stukely. There are two portraits of him, both cut in wood: the one a profile, with a long beard, published with his Government of Health, an octavo volume, 1548; the other a whole length, to his "Bulfinch's Bulwark of Defence against all Sicknes, Soarens and Wounds that do daily afflict Mankinde," fol. 1626. His last work is entitled, "A Dialogue, both plaintive and pietifull, wherein is a goodly Regiment against the Fever Petilence; with a Consolatation, and Comfort against Death," 8vo. 1654. In this work, not more than a seventh part of which, Dr. Aikin says, is on the subject of medicine, the author appears as a person of much humour, and fancy. Haller mentions a work by Richard Bulleyn, who was also, like our author, both a divine and a physician: "De Nephritis, ejusque Remedibus," which was published in 1592. These works, which are now only sought for by collectors, as speciments of the engraving, and printing of the time, passed through several editions, and doubtless contributed in rating the reputation of the writer. This shews the little progress our ancestors had then made in civilization and knowledge, as our author was no better informed than to imagine, that beards made of ebony might be successfullly worn as a charm against certain diseases, and that witchcraft was more hurtful in the realm than either quartern, pox, or pestilence; lamenting, 'that damnable witches should be suffered to live unpunished, while so many blessed men (protestants) were burned.' But these prejudices continued more than a century after his time; for in Charles the Second's reign we find doctor Chamberlain, then in high repute as an acconceur, factioning the folly of putting necklaces on children to facilitate dentition, and writing a treatise, to shew the manner in which the beads effected this purpose. Aikin's Biographical Memoirs of Medicine, &c.

BULLIALDUS, or BOULLIUS, ISMAEL, a celebrated astronomer and scholar, was born of protestant parents at Houdun in France, September the 28th, 1625; and having finished his studies in philosophy at Paris, and in civil law at Poitiers, he applied to mathematics, theology, rhetoric and profane history, and civil law, with such ability, that he became eminent in each of these departments, and acquired the reputation of an universal genius. As he had travelled for his improvement into Italy, Germany, Poland, and the Levant, he formed an extensive acquaintance with men of letters, and maintained a correspondence with the most distinguished persons of his time. Although he had been educated a protestant, he changed his profession at the age of 27 years, and became a catholic priest. His life was prolonged to his 80th year; and having retired to the abbey of St. Victor at Paris in 1689, he died there November the 25th, 1694. Besides his pieces concerning ecclesiastical rights, which excited attention, and the history of Duces, printed at the Louvre, in 1649, in the original Greek, with a Latin version and notes, he was the author of several other works, chiefly mathematical and philosophical. His "Treatise on the Nature of Light," was published in 1634; and his work entitled, "Planisphaerium, life de vero Systemate Mundii," or true system of the world, according to Philolaus, was printed at Amsterdam in 1658, and re-published in 1645, under the title of "Althromania Philelaisca," grounded upon the hypotheses of the earth's motion, and the elliptical orbit described by the planet, illustrated with various methods of demonstration. To this work were added his "Tabula Philolaicae," much approved and recommended by Riccioli, who style the author "Althromus profundus indagator." Upon examining the hypotheses, or approximation of bishop Ward, he found that it did not agree with the planet Mars; and in his defence of the Philolac astronony against the bishop, he shewed that from four observations of Tycho on the planet Mars, this planet in the first and third quarters of the mean anomaly was more forward than it ought to have been upon Ward's hypothesis; but that in the second and fourth quadrants of the same, the planet was not so far advanced as that hypothesis required. He therefore undertook the correction of the bishop's hypothesis, and made it more conformable to the orbits of the planets, which were most eccentric, and introduced what Street has called in his "Caroline Tables," the "Variation." For these tables were calculated by means of the correction of Bullialdus, and were thus more accurate than any which had preceded them. Dr. Gregory declares this correction a very happy one, considered as a correction of an approximation to the true system; for we are thus enabled to deduce the coequant, or true anomaly apriori and directly from the mean, in a manner very well corresponding to the observations; which no one, says Mercator, had effected before. Bullialdus, while he makes every planet move in an ellipse, supposes it to be such a one as if cut out of a cone, would have the axis of the cone pass through one of its foci, or that next the aphelion. See Gregory's Alton, lib. iii. prop. 7.

In 1644 Bullialdus published a translation of "Theo, the Plutonius of Smyrna," with notes; and in 1657 his treatise "De Lineis Spiralibus, Excric. Geom. et Alton.," Paris, 4to. In 1663 he published a treatise of "Pтолemvos de Judicandis Facultatis," and in 1682 appeared at Paris, in folio, his large work, entitled "Opus Novum ad Arithmet. Infinitorum," being a diffuse amplification of Wallis's Arithmetick of Infinities. Upon being consulted by M. Thouand concerning the appearance of the moon in the month of March, and 33rd year of the christian era, he made the requisite calculations, and replied, that it could not have been seen in Judea till the 19th of that month, and that it was probable that Jesus Christ was crucified on the 3d of April of the same year. Bullialdus also published two admonitions or notices to astronomers; the first, concerning a new star in the neck of the whale, sometimes appearing, and sometimes disappearing; and the second, concerning a nebula in the northern part of Andromeda's girdle, which
had not been discovered by any of the ancients, and which is subject to periodical changes. Moreli, Martin.

BULLIG, in Geography, a rocky shoal in the Atlantic near the west coast of Ireland; it is about half a mile S. of Carrick-a-island near Carlin head, in the county of Galway. W. lon. 5° 47'; N. lat. 53° 17'.

BULLIMONY, or Bollimong, denotes a mixture of several sorts of grain, as oats, peas, and vetches, called also maflin, or mong-corn.

BULLINGER, Henry, in Biography, a Swiss reformation, was born in 1504, at Bremgarten, on the borders of the canton of Zurich; and educated at Emmerick in the duchy of Cleves, whither he was sent by his father at the age of 12 years, and where he was supported for three years by the alms he procured for singing from door to door. Having been accustomed to the mortification and hardships attendant on this mode of subsistence, he entertained thoughts of entering among the Carthusians. But diverted from this resolution by the admonitions of his elder brother, he removed to Cologne at the age of 15 years, and devoted himself to the study of the school-philosophy, and of classical literature. About this time his attention was directed to the writings of Melanthon, and other reformers, the perusal of which produced a dislike of the doctrines of the Roman church, though he did not yet separate from it. Having finished his studies at Cologne in 1522, he returned to his father's house, and in the following year he was invited by the abbot of La Chapelle, near Zurich, to be a teacher in his convent, into which the reformation of Zuingli was introduced in 1526, principally by his influence. Attaching himself to this reformer, he accompanied him to the conference held at Berne in 1528; and he afterwards settled as a reformed pastor at his native place. In 1531, after the victory obtained by the catholic cantons over the protestants, he was obliged to retire to Zurich, where he succeeded Zuingli, who had lost his life in the battle. In this situation he applied with affinity to his ministerial labours and his studies, and edified his church by his writings as well as by his sermons. When Bucer attempted to reconcile the Lutherans and Zuinglians, by introducing a kind of middle doctrine with regard to the eucharist, he counteracted his efforts; and he was appointed by the Swiss churches in 1545 to reply to the harsch commentaries, which were published by Luther against his doctrine respecting the sacrament. In 1549 he concurred with Calvin in drawing up a formulary, expressing the conformity of belief which subsisted between the churches of Zurich and Geneva, and intended, on the part of Calvin, for obviating any speculations that he inclined to the opinion of Luther with respect to the sacrament. In the same year he urged many reasons against renewing the subfidiary treaty between the protestant Swiss and Henry II. king of France, and by his influence the proposal for this purpose was rejected. Among other arguments, he urged upon their consideration, "that it was not lawful for person to hire themselves, in order to kill those who had done them no wrong;" a position, which, however consonant to the principles and spirit of christianity, many professed believers have too frequently disregarded. Bullinger afforded kind assistance to the English divines who fled into Switzerland from the persecution of queen Mary; and he drew up a confutation of the pope's bull that excommunicated queen Elizabeth, which has been translated into English. He also persuaded the magistrates of Zurich to erect a new college in 1558; and he prevailed with them to establish a school, on the site of an old nunnery, in which 15 youths were taught and maintained, free of expense. In 1551 he wrote a book, the purport of which was to shew, that the council of Trent had no other design than to oppress the professors of sound religion; and, therefore, that the cantons should pay no regard to the invitations of the pope, which solicited their sending deputies to that council. In 1571 he commenced a controversy with Buresius concerning the ubiquity of the body of Christ, zealously maintained by the one, and as vehemently opposed by Bullinger, which continued till his death, that happened on the 17th of September, 1575. Besides a great number of printed works, amounting to ten volumes, he left several pieces in manuscript. Although Bullinger had been once married, and had eleven children, he was blamed for not taking another wife, when he became a widower at the age of fifty; such was the importance annexed by the first reformers to the communal plate, especially with regard to ministers, as it afforded a manifest proof of their renunciation of popery. Gen. Dict.

BULLION, denotes gold or silver in the mass or billet, before it is coined. 9 Ed. III. f. ii. e. 2.

The word is apparently formed from the French billet, a mass of gold or silver below standard, which Du-Cange derives farther from bulla, as being bulla aureum aut argentinum in manu juxta billem, i.e. baculum conflatum.

The term is applied to these metals, either when smelted from the ore, and not perfectly refined, or when re-refined, and melted down in bars, or ingots, or any unwrought body of a certain degree of fineness. In order to render gold and silver fit for use, it is necessary to reduce and harden them by an alloy of some base metal: and the quantity of this alloy is ascertained by the legislative regulations of different countries, so that the proportion of the one to the other may constitute the standard silver of such countries. According to the laws of England all forts of wrought plate should be made in conformity to the legal standard; and the pieces of standard gold and silver, regulate the value of the bullion, consisting of ingots, bars, dust, or foreign specie; consequently, in order to ascerntain the value of bullion, it is first asayed. See ASSAY. See also GOLD and SILVER.

Silver bullion is sometimes also denominated plate.

Silver and gold, whether coined or uncoined (though used for a common measure of other things), are no lefs a commodity than wine, tobacco, or cloth; and may, in many cases, be exported as much to national advantage as any other commodity.

In all great commercial countries a good deal of bullion is alternately imported and exported for the purposes of foreign trade. This bullion, as it circulates among such countries in the same manner as the national coin circulates in every particular country, may be considered as the money of the great mercantile republic. Whilst the national coin receives its movement and direction from the commodities circulated within the precincts of each particular country, the money of the mercantile republic derives its movements from those that are circulated between different countries. Both are employed in facilitating exchanges, the one between different individuals of the same, the other between those of different nations. However, the importation of gold and silver is not the principal, much less the sole benefit which a nation derives from its foreign trade. It is, indeed, part of the business of foreign commerce to supply countries which have no mines with the gold and silver that are wanted in them: but this is, comparatively, a very insignificant object; nor is it by the importation of gold and silver, that the discovery of America has enriched Europe. But by opening a new and inexhaustible market to all the commodities of Europe, it gave occasion to new divisions of labour and improvements of art, which, in the narrow circle of the ancient
cient commerce, could never have taken place for want of a market to take off the greater part of their produce.

Gold and silver, according to Mr. Locke, are the most solid and substantial part of the moveable wealth of a nation; and to multiply these metals should, he thinks, on that account, be the great object of its political economy. Countries that have political connections with foreign nations, and that are obliged to carry on foreign wars, and to maintain fleets and armies in distant countries, and to subsidize foreign princes, are under a necessity of sending money in some form or other, abroad; and therefore it has been said, that in time of peace it should endeavor to accumulate gold and silver, that when occasion requires, it may supply the means of carrying on foreign wars. Upon these popular principles, all the different nations of Europe have studied, though to little purpose, every possible means of accumulating gold and silver in their respective countries. Spain and Portugal, the proprietors of the principal mines which supply Europe with those metals, have either prohibited the exportation of them under the severest penalties, or subjected it to a considerable duty. The like prohibition seems anciencty to have made part of the policy of most other European nations. But when those countries became commercial, the merchants found this prohibition extremely inconvenient, and renounced it against it, as hurtful to trade. They represented, first, that the exportation of gold and silver, in order to purchase foreign goods, did not always diminish the quantity of those metals in the kingdom, but might frequently increase that quantity; because those foreign goods, if not consumed in the country, might be re-exported, and sold in foreign countries for a profit, which would bring back with it the treasure originally sent out for the purchase of them. They, moreover, reprented, that this prohibition could not hinder the exportation of gold and silver, which, on account of the smallness of their bulk in proportion to their value, could easily be smuggled abroad. These arguments produced the withers-for effect; and the prohibition of exporting gold and silver was retracted in France and England to the coin of those respective countries. The exportation of foreign coin and bullion was made free, and the first law for this purpose in England was passed in 1662. In Holland, and in some other places, this liberty was extended even to the coin of the country. A country that has no mines of its own, must undoubtedly draw its gold and silver from foreign countries; and, on account of their small bulk and great value, they are as easily transported as obtained. When the quantity of gold and silver imported into any country exceeds the effectual demand, no vigilance of government can prevent their exportation. All the fanguinary laws of Spain and Portugal are not sufficient for keeping their gold and silver at home. As they are easily transported from places where they abound, to those where they are wanted, their price does not admit of the same fluctuation with that of many other commodities, that are not so conveniently and speedily removed. The changes which take place in their value are generally slow, gradual, and uniform.

Instead of accumulating gold and silver, with a view to the augmentation of the real wealth of the country, Dr. Adam Smith (Wealth of Nations, vol. ii. p. 157.) recommends their being considered, under whatever form they exist, as utensils; and increasing the use for them, by increasing the consumable commodities, which are to be circulated, managed, and prepared by means of them, as the most effectual and most certain method of increasing their quantity, which will ever keep pace with the use to which they are applied; and beyond this, no law can ever prevent their being immediately sent out of the country. He adds, that it is not always necessary to accumulate gold and silver, in order to enable a country to carry on foreign wars, and to maintain fleets and armies in distant countries. Fleets and armies are maintained, not with gold and silver, but with consumable goods: and the nation, which, from the annual produce of its domestic industry, from the annual revenue arising out of its lands, labour, and consumable stock, has wherewithal to purchase those consumable goods in distant countries, can maintain foreign wars there. See Coin and Money.

Bullion is also used for the place where the king’s exchange is kept: or where gold and silver are brought in the lump to be tried or exchanged.

BULLIT’S LICK, in Geography, a salt-spring lying in Salt river, in Kentucky, America, and giving name to the river. It is distant 20 miles from the rapid of the Ohio, near Saltburgh, and is the finest spring that was worked in the county.

Bulloch-More, a rocky shael, about a quarter of a mile long from call to well, which lies above a mile W. of St. John’s point, in the mouth of Killibeg’s harbour in the well of Ireland: the keat water in it is fix feet. Mc-Kenzle.

Bulloch, in Rural Economy, the male of the cattle kind of animals, after being cultured. It is the fame with ox. Animals of this kind are generally termed bullocks from two to live, fix, or more years old.

The author of the “Synopsis of Husbandry” has observed, that in bullocks “a smooth coat and healthy countenance are proofs of their kindly disposition,” and that they will not deceive the buyer in the future progress; whereas, a drooping countenance, a hank belly, and a fusing coat, may be considered as unfavourable circumstances, and certain indubitable signs, either that such beasts are unhealthy, or by nature unprofitable.” Besides these, much depends on the form and construction of the animal: “a close well-fitted bullock, with a large dewlap, stout legs, deep chest, broad buttocks, and thick flank, will rarely deceive the purchaser; whereas those of a contrary shape, loose-jointed, long-legged, with a prominent back-gone, great length of body, short buttocks, and a belly tucked up, though to appearance larger than the first mentioned, are not likely to pay so well for their meat, and will be found much lighter in the scale from these defects.”

Fattening bullocks, it is observed, “require to be faddled with hay in the fummer of the winter months, and for this feaon it is always a prudent measure, where it can be done, to lay in for mowing a certain portion of marsh or other good grazes land, that there may be no want of fodder in the winter and fpring of the year; for it is in March and April, if those months turn out to be unpropitious, that flock of every kind is more apt to suffer than in the depth of winter; and when young bullocks become much reduced in flesh at that seaon, it is a very difficult task to raise them, and they will continue during the proceed of their fattening, to betray marks of the check they met with in their youth, so as never to arrive at the weight when fattened, that they would have done if they had not been suffered to pitch in the early stage of their life.”

Good water is likewise a very effential requisite in feeding horned cattle; and such grazers will never find their account in setting about this busines, whose grounds do not abound with a continual and plentiful supply of it; nor will the beasts thrive on dry lands, though the grazes should be in the largest abundance, for bullocks require a large quantity of water to dilute their victuals, and delight in the fummer time to chew the cud in pools or rivulets, where they may enjoy a cool
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give too large a quantity at one time; and if any of the left
serving should casually remain in the troughs when the bai-
ting time comes round, these must be removed for a fresh
supply. The hay too, which is allowed to these beasts,
either when fed with turnips, or on oil-cake, should be the
sweetest that can be got, and be apportioned out to them
in small quantities. Turnips are more palatable, and likewise
more nutritious, when given to the beasts drawn fresh out
of the field; but to guard against the contingency of a
frost, or of incessant rains, the first of which would render
this business impracticable, and the other inconvenient;
it seems a very judicious method to provide a flock of turnips
in dry open weather, that they may be in readiness at those
times when they cannot be procured fresh carted out of the
field. Thence, when deepd of their leaves and top roots,
and cleansed from dirt, may be piled up in a covered shed,
where no moisture can penetrate, and, in this manner, main-
tain their goodnies for some length of time.

When bullocks are at first shut up to fatten on turnips,
care should be taken that this food is given in moderation,
and with a proper allowance of hay; otherwise, the sweet-
nness of the turnip may tempt the beast to feed so voraci-
ously, as to occasion too great a fullness in the maw,
which is called hoving, or blowing, an accident which fre-
quently happens to ruminant animals, when taken from dry
meat or natural grass to turnips, clover, or other succulent
kinds of food. See HOVEN.

Sometimes accidents happen to bullocks, when feeding
on turnips, from pieces slipping into the throat and stick-
ing there. To prevent suffocation, which would fre-
quently be the consequence in such cases, the outside of the gullet
should be rubbed down with a flick in order to force the piece
down into the stomach; or, should it fail, a turned
flick, or piece of cane formed so as to make a kind of pro-
bang may be introduced into the throat, and the turnip by
that means be removed. See STALL-FEEDING.

By some, the black, red, and brindled bullocks are con-
cidered as most hardy, and better disposed to fatten than
those of other colours. See CATTLE and LIVESTOCK.

Bullock’s eye, in Architecture. See Eye.

Bullock’s Heads, in Rural Economy, the houies in which
bullocks are kept while feeding. In the construction of these
buildings, attention should always be had to their being well
aired, to the facility of feeding and cleaning the animals in
them, and to their being kept dry and clean by their hav-
ing suitable drains and conveniences for urine and dung.
In the rural economy of Norfolk, Mr. Marshall remarks, that
a bullock-house there, consists of a central building, thirty-
three feet long, nineteen feet wide, and about eleven feet high
to the eaves, with a pair of wide folding doors at each end,
and a lean-to on each side, the whole length of the build-
ing, and eleven feet wide. The central building is the tur-
nip-house; the lean-toes, shed for the bullocks, which stand
with their heads toward, or rather in the turnip-house, from
which they are parted by a range of mangers only; hav-
ing the full freedom of breathing in its spacious area. By open-
ing the doors at each end, a sufficient degree of air and
coolness may be given in close weather, while, behind, the
eaves of the sheds are brought down to within five feet of the
ground, and are boarded with rough boards, except an opening at each end for the bullocks to creep in at, to pre-
vent too great a coldness in severe weather, thus preferr-
ing a due temperature. The shed of these dimensions,
thus constructed, holds twenty bullocks, ten on each side,
fattened by the neck, with chains, twines and rings playing
freely upon pofts seven feet high. At each corner of the tur-
nip-house, is a triangular bin for containing the topped and
tailed turnips, or other provisions.

In autumn, it is farther observed, the entire building is
sometimes used as a temporary barn for buck-wheat, peas,
&c. and in summer the centre part is an excellent waggon-
hed: had the doors been made a foot and a half higher, it
is suggested that it would have been an admirable refuge for
loads of corn or hay in a showery harvest. The main build-
ing is covered with reed, the lean-toes with tiles. And in
the rural economy of Gloucestershire, the same writer re-
marks, that each bullock has a hovel and a yard to himself,
in which he goes free, occupying them by turns, as ap-
petite or amusement directs him, having a manger and a drink-
ing trough to go to at pleasure; of course, he eats when he is
hungry, and drinks when he is thirsty. He is also fiffent liberty
to rub or to lick himself, as well as to keep his body in a proper
degree of temperature as to heat and cold. Theory, says Mr.
Marshall, could not readily suggest more rational principles.

The construction of these, however, varies in the minute.
The water trough, for instance, is sometimes placed by the manger in the hovel or shed, sometimes in the open
pen. Other less noticeable variations may likewise be seen
in different buildings. But the plan and dimensions, which
at present seem to lend highest in esteem, and on which se-
veral elevations of this nature have been made within the last
fifteen or twenty years, are the following: The building fifteen
to fifteen feet and a half wide within, and of a length propor-
tioned to the number of stalls required: the height of the
plates five feet to fix feet four inches, supported on the side
to the north or east by close wailing; on that to the south
or west by posts, set on stone pedestals: the gables wailing:
the covering plain tiles on a single pitch-roof: against the
back wall is a gang way, three and a half to four feet wide,
formed by a length of mangers, three feet to three and a
half feet wide, from out to out, at the top narrowing to about
fifteen inches within at the bottom: the perpendicular depth
fourteen or fifteen inches; the height of the top rail from
the ground, about two feet nine inches: the material two
inch plank, stayed and supported by posts and crofs
pieces, and stiffened by strong top-rails: the dimensions of
the area of the covered stalls, about eight feet three
inches square: of the open pens the fame. The partitions
between the stalls are of broad nails, flowing from the
outside pillars to similar posts, rising on the inner or stall
side of the manger, and fixed at the top by slender
beams, reaching across the building, each stall, or each
partition, having a beam and a pair of principals. The par-
titions of the pens are gates, reaching from the pillars to
the boundary wall; and likewise from pillar to pillar. When
they are fixed in that situation, each bullock has its stall
and its little yard. When in this, each is shut up in his
stall, the yards form a lane, or driftway, for taking in or
turning out any individual. The boundary wall of the pens
is about four feet high, coped with blocks of copper-drofs.
On the outer side of it is a receptacle of manure; on the
inner, a range of water troughs, with a channel of communica-
tion for the convenience of filling them. The materials
of the troughs, are stone; of the channel, gutter-bricks, cov-
ered with slabs. Thefe stone troughs, which are about
fourteen inches by two feet six inches within, have a conven-
ience in their construction, which is entitled to notice; in-
fed of the sides and ends being all of them pecked down
to an angle, square with the bottom, one of the ends is left
bevelled, sloping, making a very obtuse angle with the bot-
tom. This simple variation renders them easy to be cleaned,
either with the shovel or the broom.

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The floor is paved with hard burnt bricks, laid edgewise in mortar, being formed with a deep defect from the wall to a channel, from three to four feet from it, and with a gentle fall from the manger to the same channel, which becomes the general drain for rain water and urine. At one end of the pens is a pump (where a natural till cannot be had) for supplying the troughs of water; and, at the other, a lack of fluble for litter, which is used in the flall only, the yard being left untittered. At one end of the building is a cake box, at the other the rick-yard; with a door at each end of the gongway to receive the hay and the cake.

In some instances, he has a double range of flalls on this plan, the area between them being the common receptacle for the dung. When a number of flalls, as twenty or thirty, are required, their arrangement brings them within a convenient compass, and the two ranges, with a proper aspect, become flitter to each other. Beside these box flalls, there are others built nearly on the same plan, but without gates, and on a somewhat smaller scale, in which the cattle are fastened to the manger, or the partition pots, with a long chain, which gives them liberty to rub and lick themselves, and move about in their flalls. In this case, a water-trough is generally placed at the end of every second partition, level with the manger, with a general pipe of communication to fill them, each trough supplying two bullocks. This plan, he observes, lessens the expence in some degree, and prevents the bullocks from fouling their mangers. In the Cotwold hills, he remarks, that each bullock has different troughs, a small one for corn, a larger one for hay, with a water-trough, which runs the whole length of the shed, and is covered by a board, each bullock having a hole to drink at. There are various other constructions of sheds for this use, which will be more particularly described under their proper heads. See CATTLE-SHEDS, and FEEDING-HOUSES.

BULLOCK's flalls, the parts that are partitioned off in the sheds, in which the bullocks stand to eat their food. They should always be made sufficiently roomy. See CATTLE-SHEDS.

BULLOCK, in Geography, a new county of the state of Georgia in America.

BULLOCKS' point and neck, lie on the eastern side of Providence river, in the state of Rhode island.

BULLIS, bay of, lies on the north of Cadiz in Spain, within Rota point, and affords a fine shelter from the N.W. to the N.E. winds; about N.N.W. from Cadiz-bay.

BULLS, bay of, or Boulout bay, a noted bay on the east coast of Newfoundland island, about six leagues to the south of St. John's harbour. It has 14 fathoms of water, and is very safe, being land-locked. The only danger depends upon a rock, 20 yards from Bread-and-Cheese point, and another with nine feet water off Magoty cave. N. lat. 47° 20'. W. long. 52° 20'.—Another bay of the same name lies on the west side of Trinity bay, running so far well, that it is scarcely three miles over land from the head or bottom of it to the bay of Placentia.

BULLSKIN, a township of Fayette county in Pennsylvania.

BULLULLOS, a town of Spain, in Andalusia, four leagues from Lucena.

BULLY, a town of France, in the department of the Lower Seine; six leagues N. of Rouen.

BULLY-tree, in Botany. See ACERS and BUMELIA.

BULMAN, in Geography, a rock or shoal on the east coast of Ireland, on which there is never less water than four feet. It lies near Hangman's point on the east side of the entry into Kinfale harbour, and must be carefully guarded against by those who enter that port. N. lat. 51° 40'. W. long. 8° 28'.

BULN Monou, a county of Africa, on the coast of Guinea.

BULONGA island, lies off the mouth of Aracan river, on the east side of the bay of Bengal.

BULSEDI, a town of Arabia, in the county of Yemen, 22 miles S. E. of Lohëa.

BULTEAU, Lewis, in Biography, a learned and pious French author, was born at Rouen in 1615, and succeeded his uncle as king's secretary, which office he occupied for 14 years, till he withdrew from it to study and religious retreat. Having entered as a lay-brother among the Benedictines of St. Maur, he passed the remainder of his days at the abbey of St. Germain des Prés, near Paris. His principal works were "An Essay on the monastic History of the East," 1685, 2 vol. 4to. "Translation of the Dialogues of Gregory the Great," with Notes, 1689, 2mo. His modelly would not allow his annexing his name to his works; his style was formed on the model of the writers of the Port Royal; and his knowledge of languages was very extensive. He died of an apoplexy in 1693. Nouv. Dét. Hist.

BUTELI, derived from the barbarous Latin butelleum, or butellum, a scare, or boulter, denotes the bran or refuse of meal after drifing.

BUTELI also denotes a bag wherein meal is dreffed, called also a butler, or rather boulter. See BOLTERS.

BULTER-clotb. See Bolting-clotb.

BULTERS, are strong lines, five hundred feet long, with sixty hooks, eight feet asunder, and batted with pilchards or mackerel, which are used on the coast of Cornwall in the fishery of eelers. They are funk to the ground by a flone fastened to them; and sometimes such a number of these are tied together as to reach a mile.

BULWARK, Propugnaculum, in the Ancient Fortification, amounts to much the same with bastion in the modern. See Bastion, and also Rampart.

BULWER, John, in Biography. This writer, who lived in London, and was in repute in his time for his skill in teaching deaf and dumb persons, and others, to communicate their thoughts, by motions of their fingers and hands, is now only known by his works, which are sufficiently singular to merit attention: viz. "Chirologia, or the Natural Language of the Hand; as also Chironomia, or the Art of Manual Rhetoric." London, 1644, 8vo. Rabelais gives an account of a curious contell of this kind, where the disputants, without speaking, communicated their opinions, by motions of the hands and fingers. The art is not entirely lost, but is now principally practised as an amusement by young people at schools. "Pathomatomyia, or the significant Mufcles of the Palpions of the Mind, and Différence of the Mufcles of the Affections," London, 1649, 8vo. He describes the mufcles of the head, and denominates them from the expression in the countenance, occasioned by their contractions, as love, fear, rage, &c. "Man transformed, or the Artificial Changeling, shewing the several Ways how divers People alter the Natural Shape of some Parts of their Bodies," 1653, 4to. Joseph Clark, the famous pasture-mutter, was a remarkable instance of a man possessing this power. He made himself tall or short, fat or lean, deformed or straight, at his discretion. He had also an equal power in altering his countenance,
countenance, so as to be unknown to his most intimate acquaintance. Haller. Bib. Anat.

BULZIG, in Geography, a town of Germany, in the electorate of Saxony, 2 miles S. of Zohna.

BUM-bailiffs, or Bound-bailiffs. See Bailiffs of Sheriffs.

Bum-baum, in Sea-Language. See Bant.

BUMALDA, in Botany. Thumbl. nov. gen. p. 63. 

B. trifoliata. A small dense shrub, smooth in all its parts. Branches cylindrical or obtusely angular, jointed, purple. Branchlets opposite, leathery, thread-shaped, much spreading, in other respects similar to the branches. Leaves opposite, petiolated. Leaflets ovate, acuminate, finely serrated, pale underneath; on short, capillary, spreading or reflexed petioles. Racemose terminal. Native of Japan.

BUMBUNNY, a name given by the people of Guina to a plant common in that place, which serves them as an emetic; they boil a few of the leaves in water, and drink this liquor, which works very easily. Phil. Trans. No. 232.


Gen. Ch. Col. Perf. fifth leaf alternate. Leaves rounded, ovate, incumbent, concave. Cor. one petal, five-cleft or five-parted; tube very short, round; border five-parted; segments ovate, entire, spreading, concave, with two little scales at the base of each; nectary with five leaves, smaller than the segments of the corolla, at the base of the filaments, surrounding the germ, acute. Stam. filaments five, the length of the tube, inserted into its bottom between its looser segments; anthers ovate, erect. Fil. germ funiculare, ovate; style thick, erect, shorter than the filaments; stigma obtuse. Drupa oval, kernel single, oblong, smooth, with a lateral scar.

Eff. Char. Corolla five-cleft; nectary five-leaved; drupe one-seeded.

La Mark says, that all Swartz's species should be referred to Sideroxylum, which he describes in his "Illustrations" as submonopetalous, or, as he expresses it in the alphabetical part, having from one to five flowers. Bumelia, a separate genus, differs from Sideroxylum only in the number of flowers. Willdenow enumerates the following twelve species, all natives of America.


B. pallida. Swartz. "Leaves terminating, elliptic, obtuse; peduncles crowded, lateral; branches erect." It resembles B. nigra, but is a smaller tree, with whitish bark, having branches less spreading, with larger flowers and drupes. Swartz. Native of Jamaica.

B. teuma. Wildd. (Sideroxylon teuma. Linn. Mant. Chryophyllum carolinense Jacq.) "Leaves obovate, obtuse, filary, very-tomentous underneath; peduncles axillary, crowded." A tree 20 feet high, with a whitish bark, and very tenuous branches. Corolla alternate, each producing numerous one-flowered peduncles, about an inch long. Leaves five or six, below or among the peduncles, petiolated, very entire, deciduous. Flowers small. Calyx ovate; leaflets five, ovate, obtuse, the outer ones broader, convergent. Corolla tube the length of the calyx; border five-parted; segments ovate, shorter than the calyx; nectary in the throat of the corolla, five-parted; segments with three clefts, the middle one generally the longest. Stamens the length of the corolla. Fil. germ pentagonal; style and stigma simple. Drupa oval, kernel ovate, thinning, with two apertures at the base, sepa- rated by a bowed partition. It varies with very short spines, thinly scattered on the branchlets. Linn. Observed by Dr. Garden in the dry parts of Carolina. 4. B. retusa, mountain basilaid bully-tree. Swartz. (Achras 7. Brown. Jam.) "Leaves wedge-ovate, obtuse, rigid; peduncles crowded, axillary." Native of Jamaica. 5. B. falcifolium Wildd. (Sideroxylon falcidifolium Linn. Mant.) "Leaves lanceolate-oblong, obtuse, a little engonate; peduncles crowded, axillary. A shrub, 12 feet high. Leaves rather alternate, thinning. Peduncles one-flowered, numerous. A native of St. Domingo. 6. B. falaisfolia, Swartz. (Achras falaisfolia. Linn. Sp. Pl. under which name it has already been given in this work. La Marek refers his Sideroxylum falaisfolium to the Achras falaisfolium of Lambs with a mark of doubt. Willdenow gives, as a synonym to the present plant, Jacquin's Sideroxylon multichodendrum, which La Marek has inferred in his Illustrations, but not in the Dictionary under the same name). "Leaves lanceolate, ovate, acuminate; peduncles crowded, axillary and lateral." Native of Jamaica and the Bahamas islands. 7. B. mangillo, Wildd. (Sideroxylon mangillo La Marek End. Chryophyllum mangillo La Marek Illust. Duhemich mangillo Domb. Peruv. Mangillo Juff. 151). "Leaves oblong, obtuse, smooth, with whitish beneath; flowers axillary and lateral, aggregate, with short peduncles." An evergreen shrub, 10 or 12 feet high. Leaves alternate, very entire. Flowers small, white, in numerous small fasicles, either in the axils of the leaves, or scattered below the leafy part of the branches. Peduncles short. Style none. Fruit about the size of a small grain of pepper. Observed by Dombey in the neighbourhood of Limn. 8. B. montana, Swartz. "Leaves oblong, obtuse; peduncles long, axillary, distinct." Native of Jamaica. 9. B. nervosa, Wildd. (Chryophyllum macrophyllum Lam. Illust. C. eainfo Aub. guin.) "Leaves alternate, oval, of a different colour beneath; flowers aggregate, lateral, and axillary, tumescent, peduncled." Native of Cayenne. 10. B. pentagona Swartz. "Leaves lanceolate, acuminate, thinning; peduncles axillary; drupes pentagonal." Native of the West Indies. 11. B. rotundifolia Swartz. "Leaves roundish, red gined, veined, leathery, smooth on both sides." Native of Jamaica. 12. B. cuneata. "Leaves wedge-obovate." Native of Jamaica. Fruit of this and the preceding unknown.
BUN

BUN, BUN, or Boonk'in, in Sea Language, a short boom or bar of timber, projecting from each bow of a ship, to extend one edge of the forecastle to windward; for which purpose there is a large block fixed to its outer end, through which the rope is passed that is fastened to the lower corner of the fall to windward, called the tack; and this being drawn tight down brings the corner of the fall close to the block, which being performed, the tack is laid to be aboard. The buonkin is secured by a strong rope, which confines it downward to the ship's bow, to counteract the strain it bears from the forecastle above dragging it upwards.

BUN, the dry stalk of hemp, stripped of its rind.

BUNCH, a cluster or assemblage of certain things, as of grapes.

Bunch also denotes a tumor, or protuberance, natural or preternatural, either on an animal or a vegetable body.——The bunch growing about the graft of a plant is a sort of callus formed by the extravasated sap. See Camel's. See Camels.

Bunch, in Surgery, denotes an elevation of the back, arising from an exterior location of the vertebrae thereof. The cure is begun by keeping emollients a long time on the vertebrae, whereby to soften the ligaments, and finished by wearing an iron bodice, which compressing the vertebrae, by degrees drive them back to their natural situation.

Bunches in horses, called also knabb, south, and sons, are diseasie arising from foul meat, bruises, hard labour, or the like; whereby the blood becoming putrid and foul, occasions such excrescences.

Bunched boughs, among Frits, are those which stand out and wherein the fex is lodged. See Bull and Root.

BUNCRAHY, a Geography, a small port town of the county of Donegal, Ireland, situated on Lough Swilly, in the peninsula of Inishowen. It is 12 miles N.W. of Londonderry, and 124 N.W. of Dublin.

BUNCUMB, the largest and most western county of North Carolina, and supposed to be the most mountainous in the United States. It lies in Morgan district, and is bounded W. by the state of Tennessee, and S. by that of South Carolina. The Blue ridge passes through this county, and gives rise to many large rivers, as Catawba, Wateree, Bread river, and Pacolet.

BUNDAMIR, a central river of Peria, which passes between Scirius and Inlakar, or the celebrated ruins of Persepolis, and is supposed to be an ancient Araxes, which See. This famous river flows into a salt lake called Baktagan. Between this river and the Kuren, a branch of the mountains of Elwend, extends S. E. See Elwend.

BUNDE, a town of Germany, in the circle of Welfphalia, county of Ravensberg and prefecture of Limberg. At this place a considerable trade is carried on in yarn and coarse linen, and near it is a medieval spring, discovered in 1758.

BUNDEL1, a ridge of mountains in Hindostan, which runs parallel to the Ganges river on the south, but at a considerable distance from it.

BUNDEL, or BUNDLEUND, a territory of Hindostan, lying on the south-west side of the Jumna, and separated from it by a narrow tract of low country. It is inhabited by a tribe of Rajpoets, who are deemed inferior to their brethren of Amurrie. Bundelund is surrounded by the dominions of Oudee, Benares, and the Maharrats, and was formerly subject to a rajah named Hindoooput; but it is now chiefly divided among his sons, or their descendants. It

is a mountainous tract of more than 100 miles square, and contains the celebrated diamond mines of Punna or Purna (probably the Panashe of Ptolemy), together with some strong fortresses, the principal of which is Callinger. It is subject to the depredations of the Maharrats, and has of late years been attacked by Madajee Sindu, who failing to make himself master of the principal fortresses, abandoned the open country. The ancient limits of Bundelund were much more extensive than the present; extending much further towards the Nerbuddah river. Chatterpore is reckoned the capital. Where the soil is not strong, it produces all sorts of fruits, but neither rice nor figs. Cotton trees are abundant, and a species of tree from which is gathered a black nut.

The territories of Adjiring are contiguous to Bundelund, on the west; to the Maharrats, on the south and south-west; and to the Benares territory, on the south. Their whole extent, including some tributary Zemindars on the south-east, may be about equal to Bundelund; and like that, subject to the occasional depredations of the Maharrats. Its capital is Rewaddo or Roobah, which see. Rennell's Mem. Intro.

BUNGERKOLE, a town of Hindostan, in the district of Kullatwur, situated between the two branches that form the Cunnabab river, near the foot of the Imaus or Himalavie mountains. N. lat. 33° 40'. E. long. 74° 58'.

BUNDLE, a collection of things wrapped up and bound together. A bundle of paper consists of 40 quires, a bundle of Hamburgh yarn consists of 20 skeins, and of basket rods, the band is 3 feet.

BUNDLES, in Laws, denote a sort of records of the chancery, lying in the office of the Rolls, in which are contained the files of bills and answers; of bills, co. arms and ciphers; censors; attachments, &c.; feire fac-sims; certificates of statute flaps; extents and liberates; superfecundis; bills on special pardons; bills from the Exchequer of the name of sheriffs; letters patent surrendered; and deeds cancelled; inquisitions; privy-seals for grants; bills signed by the king; warrants of executioners; customers, &c.

BUNDURAL, in Geography, a district of Hindostan, adjoining to the Imaus or Himalavie mountains, in N. lat. about 33° and E. long., about 75° 30'.

BUNEL, Peter, in Biography, an elegant scholar of distinguished eminence, was born at Touloufe in 1499, and educated at Paris. Unable to procure a subsistence at home, he went to Padua, and afterwards to Venice, where he was entertained in the house of Lazarus du Baiff, the French ambassador, and where he studied the Greek and Hebrew languages; of Latin he was before so complete a master, that he wrote it with such purity as to have been deemed the founder of the Ciceroian feet which prevailed so much among the Italian scholars. With George de Selve, bishop of Lavaur, who succeeded du Baiff at Venice, he retired to Lavaur, and upon his death, returned to Touloufe, where he was refused from indigence, and patronized by Meffrs. de Faur. He accompanied the son of one of those in the capacity of tutor on a tour to Italy, and at Turin, was carried off by a fever in his 47th year. His reputation for literary taste and for a philosophical contentment of mind was eminently distinguished. In early life he seems to have incurred the fulmination of hereby, by manifesting an inclination to the opinions of the reformers; but he was rejected by Calvin, because he seemed to have had too favourable sentiments of the Pelagian dogmas. A collection of his Latin letters, written with peculiar purity of style, and containing much curious matter, was printed by Stephens in 1551, and afterwards reprinted at
at Toulouse. The capitols of Toulouse have placed his bust in their town-hall among other ornaments of their city.

Gen. Diet.

BuEeT, Jacop, a painter of history, was born at Blois in 1538, and became the disciple of Frederick Zucchero. He was in high reputation as a painter both at Rome and at Paris; and in the church of the Augustines, in the latter city, he painted a "Defect of the Holy Ghost," which was preferred by that excellent judge, Nicolò Pouffia, to all the paintings in that city. Fikkington.

BUNG, the flopping of a cask, barrel, or the like. The bung is a wooden plug, serving to stop the hole left in the top of a vessel to be filled by. It answers to what, among the ancients, was called plenum, and in the middle ages, fillius, the flesh of a vessel, because in those days it was usually sealed.

After turning new wine, or cyder, the bung is usually left open for some time, that when the liquor comes to work, there may be vent for the froth or foam, and that the hoops may not be in danger of being burst by the violence of the fermentation. Yet, in some cases, they leave wines to ferment, without giving them vent by the bung, in order to render them more brilk and spirituous: in which case, it is necessary the vessel be hooped with iron, and other precautions taken lest the bung may not hold.

BUENGAY, in Geography, a town of Suffolk, England, is built on the banks of the river Waveney, which divides this county from Norfolk, and is navigable for barges from Yarmouth on the coast. This place is memorable for a dreadful fire which, in 1688, consumed nearly the whole of the town, and destroyed property to the amount of £9,890. The town, however, revived after this deplorable event, and its houses, &c. were re-erected in an improved and more convenient style. The town consists of two parishes, and has two handsome churches. That, dedicated to St. Mary, is a large structure, with a lofty steeple. Between the two churches are the ruins of a Benedictine nunnery which was founded in the time of Henry II. Here are also the remains of a very strong castle, which appears to have been built by the Bygods, earls of Norfolk. In the time of the barons' wars, this place was strongly fortified by Hugh Bygod, who is said to have publicly defied the king, but he was obliged to compound with Henry II., by a sum of money, and hostages, to save it from a siege, and demolition by that monarch.

The inhabitants of Bungay have the privilege of a very extensive common in the vicinity of the town. Here are a weekly market on Thursday, and two fairs annually. It is 126 miles N.E. of London, and contains 187 houses, and 903 inhabitants in Trinity parish, and 305 houses, with 1,400 inhabitants, belonging to that of St. Mary.

BUNGO. See Bongo.

Bongo, a province of Africa, in the kingdom of Loango. BUNGURY, a town of Hindostan in Lahore, seated near the river Rauce. N. lat. 32° 20'. E. long. 74° 58'.

BUNGUSH, a district of Cabul, situate to the south of the Cow river and east of the Sindé, terminating on both. N. lat. about 33° and E. long. about 70°.

BUNIALU, a town of AfREDIT Turkey, in the province of Natalia; 28 miles W. of Caftanoni.


Gen. Char. Sal. perianth four-leafed; leaves ovate-oblong, spreading, deciduous. Cor. four-petalled, cruciform; petals obolate; claws attenuated, etc. Stemm. ox, the length of the calyx, two opposite ones a little shorter than the others; anthers erect, bild at the base. Fil. gem oblong; stigma obtuse. Silphii irregular, ovate-oblong, somewhat four-sided, not opening, deciduous.

Eff. Char. Silphii deciduous, four-sided, with unequal acute angles, not opening. Dr. Smith.

Spec. 1. B. cornuta, Linn. (Maliagrum cornutum, Linn. Poriolum cornutum, Gen. Willd. and Vent.) "Specie with two spreading horns, spinius at the base," Linn. Laurea tongue-shaped, very entire, glaucous, without veins, half embracing the stem. Racemes terminal; very loose in a state of maturity, with wide-spread peduncles. Flowers small, not larger than those of Draba verna. Petals narrow, very entire, acuminate, white, a little longer than the calyx. Core somewhat hidip, two-celled. Silphii membranous, lenticularly-compressed, transversely oval; furnished at each extremity with a long, compressed, sword-shaped process, producing the appearance of two wide-spread horns; rafinated on each side with veins; somewhat transparent between the veins, and armed with four pair of small divaricating spines proceeding from the veins. Cells naturally two, placed by the side of each other and separated by a thin partition; but, in the mature fruit, one is constantly obliterated. Seed single, ovate oblong, compressed, inclosed in an aril. Gen. Tab. 142. Fig. 3. Native of the Levant and of the defect of the Calmucks near the Caspian sea.

all the leaves lanceolate." Root annual. Stem near a foot high, somewhat branching, rough with minute prickles. Lower leaves are finely lanceolate, upper ones lanceolate, little toothed; with a few white, forked and thin hairs. Flowers yellow, in racemes. Calyx for calabash ventroso, convex. Silicles oblong, thick, covered with four opposite furrowed angles; and terminated by a pyramidal, obtuse style, the length of the silice. Retz. Obs. 2 p. 21.

Native country unknown. 7. B. orientalis, Lam. (Crasbe orientalis, Tourne. Myag. orient. La March.) Gart. Tab. 147. "Silicles ovate, pubes, warty; lower leaves runcinatae, filiform, upper ones lanceolate?" W. D. Root perennial. Stem branching, upwards of two feet high, branched. Flowers yellow, in long, terminating racemes. Silicle drupace, roundish or obovate oblong, gibbous, warty, ending in a fruit. Rind furrowed, black-coloured. Shell bony, of the shape of the silicle, smooth without; with two cells on the above the other, the upper one, in such silifices are roundish, generally obliterated. Seeds roundish, rufcicent. Miller and Gartner. Gathered by Tournefort in the Levant, and by Gmelin in Siberia. 6. B. coccobradioides, Wild. "Silicles ovate, blunt, somewhat wrinkled; radical leaves oblong, item-leaves arrow-shaped, embracing the stem." Root annual; a native of France, Italy, Hungary, &c. 7. B. tatarica, Willd. (Vella tenuifolia, Dalla 11. tom. 5. P]. 6. French T. floration.) "Silicles globular, somewhat hexagonal, with long beaks; leaves lanceolate, blunt, petiolar." Root annual. Stem erect, branching, half a foot high. Leaves very entire, hifpid, attenuated into a petiole at the base. Flowers white, in fiform racemes. Silicle four-furrowed, crowned with the thick, cylindrical, permanent style, two-celled, not opening. 8. B. Myagroides, Link. Nat. 36. (Cakile myagroides, Vent.) La March Illurt. Tab. 534. fig. 1. "Silicles two-edged, two-jointed, a little swelling above; leaves pinnate, with reflected nerves." Root annual. Stem straight, two feet high, even, irregularly branched. Lower leaves pinnate or bipinnate, rather broad, not flufhy, deep green, with oblong, toothed divisions or pinnas; the upper ones very similar, but narrow and linear; all with reflected nerves. Racemes terminal, long, ftraight. Flowers nearly fuffila. Cakile oblong, cd; Peduncles very ealr, pale, purple. Authors yellow. Style fword-shaped. Silicle sub-cylindrical, rigid, approximating to the rachis; on a short peduncle; lower joint cylindrical, two-valved, generally with only one seed, the valves marked with a fingle treafk; upper joint, compressed, obtusely two-edged, generally with only one seed, blunt, with a protruberant auricle on each side. Linn. A native of Siberia. 9. B. pygmaea, Linn. Sy-db. Nat. tom. 3. p. 231. (Myagrum verrucosum, Lab March) Gart. Tab. 142. copied by La March in Illurt. Pl. 534. fig. 3. "Silicles four-angled, rugged with warts on all sides; leaves runcinate." Root annual. Stem a foot high, branched, hifpid below, fmoother above. Leaves runcinate, somewhat toothed, even; with a few hairs beneath on the petiolis. Racemes solitary, terminal, long. Flowers pedicelled. Clafyx yellow, spreading. Pedals dark yellow, ob ovate, obtufe, spreading, with erect claws. Stamens yellow, dilat. Germ. ovate, four angled, green. Style none: stigma capitate, yellow. Silicle drupaceous, small, oval, four angled; the two narrower sides rugged with warts; the two broader marked with a double, longitudinal, elevated freak, which is crenulate, or lightly tubercled: rind very thin, membranaceous: shell bony, mucrate, two celled; cells placed by side. Seeds follar, ovate, convex on one side, flat on the other, rufcicent. Linn. and Gart. A native of Egypt. 10. B. balentica. Linn. Nat. 429 (Myagrum bol. Lab March) Jacq. hort. Tab. 144. Gowan illurt. tab. 20. "Silicles hilipid; leaves pinnate; foliolas somewhat toothed." Root annual. Stem a foot high, much branching, spreading, angular, smooth. Leaves petioled; pinna lanceolate, sinuate, obtuse, smooth. Peduncules in racemes, very long, erect; pedicels shorter than the flowers. Calyx closed, smooth, lanceolate, concave, tiliaceous. Corolla yellow; petals oblong, obtuse, the length of the calyx. Silicles globular, elongated on every side to oblong, flat, Franck, longer than the silicle. A native of Majorca and Minorca. 11. B. profusa. Wild. Pest. Atl. tab. 170. "Silicles one-feeded, toothed; leaves pinnati- fed; segments subulate." Stems numerous, profusely, pubescent from the root. Leaves pubescent, deeply pinnatifid; segments obtuse, toothed. Flowers white. Silicles roundish, compressed, terminated by the permanent style, pubescent. A native of the sandy soil in the northern part of Africa. 12. B. Cakile Linn. Hufion. Withering, Smith. (Cakile maritima Tourn. La March, Vent. Wild. Cakile Scapitifions Lorb. Gart.) Eng. Bot. Pl. 321. La March illurt. Pl. 534. fig. 2. Gart. Tab. 147. "Silicles ovate, two-edged, smooth, one-seeded; leaves flufhy." Smith. Root annual, slender, woody, running deep into the ground. Stem round, much branched, woody, divided from the base into widely dilated, zig-zag, twisted branches. Leaves alternate, thick and fucculent, rather glaucous, smooth, more or less deeply pinnatifid and toothed; their segments all obtuse. Flowers pale purple in dense, terminal corymb, which afterwards grow out into spikes. Calyx gibbous at the base. Silicle smooth, oblong, acuminate, obsolete, four-angled, but so compressed as to make two opposite edges very prominent, two jointed, separating at the joints: the upper joint largest, deeply emarginate at the base, spongy, distinctly fertile, one celled, not opening spontaneously, but easily separated into two valves at the prominent angles: the lower joint smaller, somewhat top-shaped, sometimes perfectly solid, and sometimes furnished with a cell, which is either barren or contains a single flegel; but a hotter lower joint is very rare, and never occurred to the observation of Gartner. Miller, Gart, and Smith. An inhabitant of the sea-coasts of Europe, Asia, Africa, and America. Willdenow describes the variety B. Vahl, which he conjectures to be Iphis Egyptianus of Linnaeus, as a second species of his genus Cakile, under the trivial name of Egyptianus. It differs chiefly in having larger leaves, longer peduncles, and more flowers in each involucre; but it seems to be only a variety of the common species.

Onf. This genus, like several others of the same natural family, is very perplexed and obscure, and differently treated by different authors. Linnaeus, at first, formed it of such species as bore rough or mucrinated fleshes or flices, including the Erucago of Tournefort, and framed its generic character accordingly: but afterwards, without changing the character, admitted the Cakile of Tournefort, which has not rough or mucrinated fleshes, and which in his Hornus Cliftonianus and Flora Suecica, he had placed under Raphanus. La March has abolished it entirely, keeping Cakile distinct, and placing the other species under Myagrum, which, he says, forms with them a very natural genus, consisting of species with fleshes, in some respects so different from each other, that, if not united under one very general character, they must conllude nearly as many genera as species. Jussieu, instead of uniting it with Myagrum, is rather inclined to divide it into three, Bunias, Erucago, Cakile. Gartner makes its essential character depend on a drupaceous silicle, adding that those who are delighted with
with a multitude of genera, may divide it according to the
internal structure of the drupe, and the seeds into Bunias,
Lactia, and Aruciago. In conformity of this established
principle, he has not only reared the genus Carake de
Tournefort, but has also introduced a new one for the
Bunias corumata of Linnæus, under the generic name Potio-
nium, from пожа a dagger, suggested by the shape of the sin-
ular processes from the bicle. Willdenow and Ventenat
have admitted the three genera, and the latter has also
given names to a distinct genus. In this diversity of
opinion, we have thought it but to keep the Linnaean gen-
us entire, only adopting the essential character given by Dr.
Smith in his Flora Britannica, which appears to be equally
comprehensive of the proper species and exclusive of oth-

Bunias Syriaca, of Gartner and Willdenow. See
Anastatica Syriaca. La March says that it is not the fruit
of Myra gramm, and consequently cannot belong to the
genus Anastatica. Gartner, when his plates were engraved,
followed the arrangement of Linnæus, but, when he wrote
the descriptions, had discovered that the Linnæus is a
druepe, though the rind is so thin as to be scarcely discern-
able, and that, therefore, it belongs to the genus Bunias.

Bunias, Gerard. - See Brassica Napus.

Bunium, (supposed, like Bunias, to be derived from
βανος, a hill, as is laid, from its affecting high situa-
tions, but that being neither its peculiar nor universal character,
it is probably so called from the form of its root) Earth-
nut. Kuper-nut, Pig-nut, or Hawk-nut. Linn. gen. 255.
30. Gart. 807. Bulboceenam Tourn. Chas and order,
petantrum diggiua. Nat. Ord. Umbel. Linn. Umbel-
liffere Juif.

Gen. char. Umbel universalis, with many drus not
twenty: partial, very short, crowded. Involute uni-
versal short, of many linear leaves, sometimes not more than
three, or one only, and after the flowers are opened, often
entirely wanting: partial locossse, the length of the par-
tial umbel. Perianth proper scarce apparent. Cordal uni-
versal uniform. Florets all fertile. Cor. proper of five
flex-cordate, equal petals. Stem. filaments five, shorter
than the corolla, simple; anthers simple. Fil. germ ob-
long, inferior: styles two, reflexed; stigmas obtuse. Peric.
none: Fruit ovate, splitting in two. Seeds two,
ovate, convex on one side, flat on the other. Linn. five
fringed, the spaces between the fronds finely wrinkled.

Essen. Char. Cor. Uniform. Umbel crowded. Fruit
ovate.

Sp. 1. B. Bulboceenam. Linn. (B. minus. Gouan.) La
March, Ill. 157. "Involute many-leaved: lea emit and
leafy at the base." Dr. Smith. "Leaves unifolium, involucro
many-leaved." Willd. "Fruit somewhat cylindrical, thicker
at the apex; styles reflexed, deciduous." Gouan. Root
perennial, tuberos roundish. Stem round, alternately branched,
leafy, fringed, smooth. Leaves trinlicate: segments linear, of ten trifid. Umbels terminal, erect.
Partial umbels close, white. Involute three times shorter
than the rays. Dr. Smith. Common on the Continent; rare in England; found by Martyn in the time of
Dillenius, near Hornfey wood, and by Mr. William Wood,
lately in Kennington gardens. 2. B. flexuosum, Stokes in
Withering and Dr. Smith. (B. majus. Gouan and Will-
denow.) "Involute of three leaves or less; leaf naked,
tapering, and zig-zag at the base." Dr. Smith. "Stem
leaves very narrow, involucre none." Willd. "Fruit
ovate, acuminate; styles permanent." Gouan. Root tu-
berous, roundish. Stem elongated under the earth, tapering,
zig-zag, white; at a foot and a half high, crept,
branchied, leafy, fringed, smooth. Radial leaves on long
petiolo, trinicate: segments linear, pliniatifid and gilled;
stem leaves nearly fertile, trinicate, finely divided; sheath
short, grooved, smooth, the edge membranous and whitish.
Umbels several; universal rays from seven to twelve, partial
about twelve. Involute unifolium and partial various; in
Yorkshire specimens, the universal involucro mixed commonly
of one or two lanceolate leaves, with three coloured ribs,
proceeding from a projecting ring which surrounds the
base of the umbel; partial one of from one to three leaves,
exactly resembling those of the universal involucro and proceeding
from a similar ring. Styles white according to Curtis, but
in our specimens they are purple, with globular filament.
A native of heaths, dry pastures, and woods, in almost every
part of England. Linnæus confounded these two species,
but, as Dr. Smith observes, appears to have drawn his de-
scription from the Bulboceenam, the majus of old authors.
They knew only one species, which mull have been the
flexuosum; but Magni, his contemporary, mentions both
in his index of plants growing about Montpelier, and adds
that he found them to be specifically different by cultivating
them in his garden. Johnfon, in his edition of Gerard,
distinguifled them, and Dillenius was rather inclined to
think them distinct; though Professor John Martyn, on
whose authority he admitted the majus of the old botanists
as a British plant, suspected that the difference was owing
to the roots growing nearer than usual to the surface of the
ground. Gouan, who cultivated them during eight years,
is surprized that they have not been distinguished long
since, and gives specific differences which, however, do not
satisfy the present professor Thomas Martyn. But Dr.
Stokes and Dr. Smith have, we apprehend, now deter-
mined the question. The tuberous roots of both species,
on account of their sweetish taste, have long been a favour-
ite esculent with boys, and when boiled or roasted are
said to be little inferior to chestnuts. Ray recommends them
when seasoned with pepper as a nourishing, stimulative,
food, and the old empirics attributed medical virtues to
them, which have long since been exploded. Gouan and
Willdenow have perversely given the specific name majus
to the minus of the old authors. 3. B. aromaticum. Linn. Mant.
218, "partial involucres of three leaves." Root annual,
and as Bofe observes, probably not tuberos. Stem erect,
even, alternately branched. Leaves resembling those
of Carum Carvi, super-decompound. Umbel of ten or twelve
rays on a long, fringed peduncle. Partial umbels short.
Involute involucro of about six, short, awl-shaped leaves.
Partial involucres of about three leaves, the length of the
little umbel. Corolla white. Petals equal, infl ex-cordate.
Seeds ovate, minute, yielding an aromatic odour, similar to
Carum. A native of Crete and Syria.

Bunium, Sauage, Mont. See Sison verticillatum.
Bunium, Dalech. J. Bauh. See Æthusa Bunius.
Bunium, Rump. and Barm. See Stilago Bunius,
now discovered to be the male of Antidium alexandria.
Bunker's Hill, in Geography. See Breed's Hill.
Bunkle's Manuscript, in Biblical History, a mo-
dern MS. of the four Gospels, noted in Mill Bu., and 70 in
the first part of Welthein's New Testament. When this
MS. was collated by Mill, it was the property of Mr.
Bunkle of London; but at present it is preserved in the
University library of Cambridge. Whether it was written
a short time before or a short time after the invention of
printing, which last is ascertained by Welthein, in opposition to
Mill, is a matter of little importance. It is supposed to have
have been written by George of Sparta, who was sent on an
embassy to England by Pope Sixtus IV. in 1476. It has
not the ancient antites, but the modern chapters, which
are found in our printed bibles. Michaelis’s Int. to the
New Testament by Marth, 2nd vol. and iii.

BUNASS, in Geography, a river of Hindostan, which
runs to the Isfin; 25 miles N. E. of Oudhpour.

BUNICK, JOHN VAN, in Biography, a painter of his-
tory and portrait, was born at Utrecht in 1654, and under
the instruction of Herman Sechler he became a consider-
able artist. Having in some time associated with Gerard
Hoeck in the exercise of his art, he determined to improve
himself at Rome; and there became acquainted with Carlo
Maratti, and Abraham Gedoos, from whose works and
conversation he derived great benefit. Intending to return
home, he was detained by the duke of Modena, who en-
aged his service by the grant of an honourable pension,
and retained him in his court for eight years. He designed
well, disposed his figures with elegance and propriety, and
was correct in his outline. He died in 1727.

His brother and disciple, Jacob Van Bunnik, became
an excellent master, and distinguished himself by painting
battles. His subjects were different from those of his
brother, but in the manner of his handling and colouring, he
resembled him entirely. He died in 1725. Pilkington.

BUNNOO, or BANO, in Geography, a town of Cabul,
situate between the mountains of Sindia Bafich, which lie
south of Pindawur and the river Cophenes, or Cow river,
or the great river of Bunguhi, which is formed by the
waters of Ghzini and Gurdaiu, and passing by Nughz
and Bunnoo, discharges itself into the Indus or Sind, at Dein-
kote. N. lat. 33°. E. long. 70° 20'.

BUNNUEL, a town of Spain in Navarre, seated on the
Ebro; 7 leagues from Tudela.

BUNOLA, a small town in the island of Majorca.

BUNOWEN, a village on the coast of Comanera, in the
western part of the county of Galway, Ireland, which gives
name to a bay, in which small vessels may ride in the sum-
ner time, or in moderate weather, the ground holding well,
and the water from 2 to 2½ fathoms. N. lat. 53° 24'. W.
long. 10° 58'.

BUNRATTY, a barony in the county of Clare, Ireland,
which derives its name from the old castle of Bunnratty, or
Bunratty, which was built near the mouth of the small river
Garna, that flows into the Shannon, and was considered a
fortress of great strength and importance. It was built by
Thomas de Clare in 1277 for the protection of the English
settlers; and was afterwards the occasional residence of the
ears of Thomond. Being taken possession of by the adhe-
ents of the parliament in 1653, it was besieged by the Irish
underlord Muskerry, and held out six weeks. It is about
8 miles west from Limerick. Hollandhead.

BUN of a sail, in Sea Language, is the middle part of it,
formed into a kind of bag, or pouch, that it may catch and
receive the more wind.

The bunt is chiefly used in topsails, the foremost leech of
which is cut with a neck; for courses are for the most part
cut square, or at least with a small allowance for bunt or
compas, which is the middle part of the foot of such sails.
They say, the bunt holds much leeward wind; that is, it hangs
too much to leeward.

Seamen all agree, that a bellying or bunting sail carries a
veesel faster to the windward than a straight or flat sail: the
contrary of which is afforded by Dr. Hooke, who has a dis-
course to thrive the preference of straight to bunting sails. Vide
Hooke’s Polibyn. Works, p. 563, seq.

BUNI-lines, are small lines made fast to the bottom of the
square sails, in the middle part of the bolt-ropes to a cren-
gle; and so are received through a small block, seated to
the yard: their use is to trive up the bunt of the sail, for the
better furling it up.

BUNI-lineavor, is the lining fewed up the sail, in the
direction of the bunt-line, to prevent the sails being chafed.

BUNTIN, a thin woolen stuff, of which the colours
and signals of a ship are usuallly made.

BUNTING, in Ornithology, the English name of the
birds of the Emberiza genus. See Emberiza.—Bunting
is the name applied in common to Emberiza Miliaria.

BUNTINGFORD, in Geography, a small market-town
in the county of Hertford, England. It stands on the
banks of the river Rib, near the spot where the Roman road
called Enning street, crossed it. Edward the third, in the
21st year of his reign, granted to this town, the privilege of
a yearly market, and a fair. In the 41st year of his reign
he further endowed it with a weekly market on Saturdays,
and a fair in June. This town is only a chapelry to Lay-
ton, where the church is situated, but the inhabitants are
accommodated with a rectory and commodious chapel, which
was finished in 1626. Here are a free-school, an alms house,
and other charities. The present market day is Monday;
but the markets are very considerable. Buntingford is 31
miles north from London, and with the remainder of the
parish, contains 163 houses, and 799 inhabitants. Magna
Britannia, vol. ii. 973.

BUNTSPECHT, in Ornithology; Frisch has the greater
woodpecker, picus major, under this name.—Kleiner Bun-
tspecht is the lesser spotted woodpecker, picus minor, in the
same author.

BUNZLAU, or BUNZEL, in Latin Bolestavia, in Geo-
ography, a town of Sileia, in a circle of the same name, and
in the principality of Jauer. It is feated in a fertile coun-
try, on the Böber; and exports great quantities of its beau-
tiful brown earthen ware. It was formerly noted for the
rich mines in its vicinity, and the Sileian bards have cele-
brated the limpid and fabulous waters of the quick-brum
or quick-spren that lies near it. N. lat. 51° 12'. E. long.
15° 50'.

BUNZLAU, Alt, an ancient town of Bohemia, in the cir-
cle of Boleswau, founded by Wartislaus in 915, but reduced
by the troubles of the 15th and 16th centuries to an incon-
derable place. It is feated on the Elbe, 8 miles S.S.W.
of Benatek or Benatky.

BUNZLAU, Jung, a town of Bohemia, and capital of
the circle of Boleswau, built in 973 by Bolewau the younger,
and ranked in 1600 among the royal boroughts by the
emperor Rudolph. It is feated on the Icer, 28 miles N.N.E.
of Prague.

BUNYAN, JOHN, in Biography, a very popular writer
among persons of a particular description, sprung from an
obscure origin, being the son of a tinker, and was born at
Elllow near Bedford, in 1628. His parents gave him an
education suitable to their condition, and taught him to read
and write; but his conversation and conduct in early life
were remarkably vicious and profane, though not without
some checks, which indicated very strong religious impre-
sions. In process of time these impressions, revived and
cherished by the conversation of some pious women, with
whom he accidentally associated, terminated in a thorough
reformation, so that he became as much distinguished for his
piety as he had once been for his profligacy. For several
years he followed his father’s occupation, and in the exer-
cise of it travelled about the country, particularly in the
neighbourhood of Bedford. He enlisted as a soldier in the
parliament army, and at the siege of Leicester in 1645, his
life
life was singularly preferred by his conjointing to give up his place as a sentinel to a comrade, whose head was taken off by a musket ball. At the time of his marriage, his poverty was such, that neither he nor his wife possession so much as a duff or a spoon; but he had, what he deemed of greater value, the Plain Man's Path-way to Heaven, and The Practice of Piety, which he was accustomed to read with her, and which afforded him singular satisfaction and advantage. Of the sincerity of his conversion he exhibited such evidence, that he was admitted in 1675, a member of a Baptist congregation at Bedford; and he was so regular an attendant on meetings held for religious purposes, that, soon after the reformation, he was convicted of associating with others in unlawful assemblies and conventicles, sentenced to perpetual banishment, but afterwards committed to prison, where he supported himself and family, during a confinement of twelve years and a half, by making tugged lace, and where he employed part of his time in preaching to and praying with his fellow-prisoners. His library at this time consisted only of the Bible, and the Book of Martyrs; and yet he compos'd many of his works, and, particularly, his Pilgrim's Progress, whilst he remained in prison. In the last year of his confinement, such was the estimation in which his talents and character were held, that he was unanimously chosen pastor of the congregation at Bedford. After his enlargement, for which he was indebted to the compassionate interference of Dr. Barlow, bishop of Lincoln, he travelled into several parts of England, for the purpose of visiting and confirming persons of the same profession; whence he obtained the appellation of Bishop Bunyan. Upon the publication of king James II.'s declaration for liberty of conscience, Bunyan was enabled, by the voluntary contributions of his friends, to build a meeting-house at Bedford, where he constantly preached to very large congregations. He also frequently visited London, and preached there among the non-conformists; but in one of these visits he was seized with a fever, and died at his lodgings on Snow-hill, August the 31st, 1689, aged 60. His remains were interred in the burying ground belonging to the dissenters in Bunhill Fields. His religious sentiments were those of the most rigid Calvinists, to which he was zealously attached; his piety, though blended with some degree of enthusiasm, was sincere and uniform; and his moral conduct, after the period of his conversion, was not only irreproachable, but exemplary, though his zeal exposed both his principles and character to many unfounded reproaches and calumnies. As he never enjoyed the advantages of a liberal education, his public performances, as a preacher and his writings, as an author, indicate very extraordinary talents. In his preaching, he spoke with considerate fluency, though not without some hesitation; and his ministerial labours were countenanced by the learned Dr. John Owen, who occasionally attended his sermons. Of his numerous works the most celebrated, both for its composition and popularity, is his Pilgrim's Progress. This work, which has passed through more than fifty editions, and which has been translated into various languages, has been admired and applauded by some of the best judges; and there are few persons who have not read it, whatever may be their opinion of the theological system on which it is founded, and of the terrific ideas which it is adapted to excite in the minds of the young. The allegory is well conducted and fulfilled; the characters that are introduced are justly drawn; it abounds with lively description, and manifests the exuberance of invention. Lord Kainins, speaking in his Sketches of the History of Man, (vol. i.) of this work, and Robinion Crusoe, the great favourites of the vulgar, says, that "they are composed in a style enlivened, like that of Homer, by a proper mixture of the dramatic and narrative;" and Bunyan's genius, displayed in this performance, has been, perhaps, extravagantly extolled by other writers, among whom we may reckon Mr. Granger, Mr. Merrick, and Dr. Roberts, to whose sentiments great deference is due. Many of Mr. Bunyan's other works are of the allegorical or parabolical kind; and though not equally popular with the Pilgrim's Progress, are much read by a certain class of persons. The most considerable of these is the Holy War, made by Shadwell upon Diabolus. One of the most interesting of his works is Grace abounding to the chief of Sinners, containing an account of his own life. All his works were collected together in 2 vols. folio, London, 1756, 1757; and a new edition, more complete than any of the preceding, with copper-plates, and a recommendatory preface, by Mr. George Whitfield, was published in 2 vols. folio, in 1767. Buon, Buo.

BUOMATTEI, Benedict, an early Italian grammarian, was born at Florence in 1581, and having entered into the priesthood, discharged the duties of his function, and pursued literary studies at Rome and Padua, and chiefly in his native city. He was a member of several academies, and particularly that of those of Della Crusca and the Apostoli, where he recited lectures and discourses, many of which have been published. But he is principally known by his two books On the Tuscan Language, being the first work that devotes the title of a grammar of the Italian language, and still popular and highly esteemed. Buonmattei died at Florence in 1624. Tiraboschi, Gen. Bio.

BUON, in Geography, a town of the kingdom of Naples, and Principato Ultra, and ruled E.N.E. of Benevento.

BUONACCORDO, a small flaring musical instrument, resembling a fipple, used by children to learn to play on, because of the shortness of their fingers.

The word is Italian, and properly denotes a haphazard.

BUONACCORSI, Philip, in Biography, an elegant modern Latin writer, was born of a noble family at S. Gimignano, in Tuscany, in 1417; and residing at Rome in his youth, he was one of the founders of the Roman academy, according to the custom of which he assumed the name of Callimaco, adding to it Esperiente, in allusion to the vicissitudes of his life. Being suspected by pope Paul II. of a concern in a conspiracy against his life, he was under a necessity of fleeing himself by flight; and having wandered through Greece, Egypt, Cyprus, Rhodes, and other islands in the Archipelago, Thrace, and Macedonia, he at length took refuge in Poland; where he was introduced to king Louis, who made him tutor to his son Albert, and his own companion. After the death of Callimaco, he was entrusted by Albert, his successor, with the conduct of all the affairs of his court and kingdom; and though these marks of distinction excited the envy of Albert's courtiers, and many attempts were made to ruin him, he retained his sovereign's favour till his death, which happened at Cracow, in 1504. Callimaco, for which the name by which he is distinguished, Calliser, wrote in 3 books the life of Ladislaus, brother and predecessor of Callimaco, with an account of the battle of Varna, in which he was killed. He also composed a life of Attila, and a small treatise on the attempts of the Venetians to excite the Tartars and Persians against the Turks. These pieces, with some orations and letters, have been published together, and passed through several editions. The style in which they are written is elegant and forcible; and in the opinion of Paul Gioio,
Giovio, no historian since Tacitus has equaled Buonamico. Many unpublished works are preferred in the Vatican, and other libraries. Tiraboschi, Gen. Biog.

Buonamico was born at Lucca in 1710, and having entered into the ecclesiastical state, sought advancement at Rome; but being disappointed in his views, he afforded a military character, and engaged in the service of the kings of the two Sicilies. He still, however, indulged his taste for the pursuits of literature. His principal works are a relation in Latin of the war of Velletri in 1745, between the Austrian and Neapolitans, printed in 1748, under the title of " De Rebus sub Ultime Magno Commentarium," 4to.; for which work he was recomposed with a pension by the king of Naples, and the rank of commissary-general of Artillery; and "De Bello Italico Commentarius," 4to. in 3 books, 1750, 1751: containing the history of the war in Italy, for which he was honored by the duke of Parma with the title of count. These histories, equally admired for accuracy of detail, and purity of Latin, have been several times reprinted. The author's treatise "De Scientia Militari," remains unpublished. He died at Lucca, in 1761. Nov. Diet. Hill.

Buonamici, Lazzaro, was born at Baffano in 1479, and educated in the university of Padua, where he gained such reputation, that Pomponazzi, his tutor in philosophy, sometimes applied to him for the explanation of a passage in Aristotle. From Bologna, where he was employed in the instruction of the young persons of the Campiggi family, he removed to Rome, and became professor of the belles lettres in the college of Sapienza. In 1527, when the city was taken, he lost his library, writings, and all his effects, and with difficulty saved his life. At Padua he occupied the chair of Greek and Latin eloquence, to which he was invited in 1530, and in this situation, where he was highly respected, and where he had a great concourse of students, he remained, notwithstanding several applications made for removing him by universities and sovereign princes, till his death, which happened in 1552. He was borne to his grave on the shoulders of his students. His writings, consisting of letters, panegyrics, and Latin poems, are few, but they are sufficient to establish his character as an elegant writer. Notwithstanding his professional reputation, he disdained much of his time in the intercourses of society and in play, to which he was so much addicted, that he sometimes devoted whole nights to it. His dread of criticism might also prevent his appearing before the public as an author. A collection of his poems was printed for the first time at Venice in 1572. Tiraboschi, Gen. Biog.

Buonamico, of Cristofano, called Buffalacce, was a Florentine painter, born in the year 1562, and a pupil of Andrea Tafi. He was an artist of great merit, and by Procaccio celebrated for his wit and humour (vid. II Decamerone); and Francesco Sacchetti in his " Tre Cento Novelle," relates a story of him when he was a boy, which shews the early bias of his mind; and as it pourtrays the character of the man, it may not be without its interest. Andrea Tafi was a painter of great industry, and used to rise before it was light to pursue his avocation, considering the gain more than the honour of his profession. Early rising, unfortunately, had no charms for his scholar, and therefore he devised a scheme to make him lie in bed till daylight. At the hour Tafi was about to rise, having previously provided himself with thirty black beetles, and on their backs fastened small pieces of wax taper, he lit them up, and sent them one by one, through a hole in the door, into his master's bed-room; making a procession of moving light mysteriously unintelli-
gible; which so alarmed the old man, that he prayed and recommended his soul to mercy, and hid his face under the bed clothes. In the morning he told Buonamico he had seen ten thousand devils, and that his thoughts were so disturbed he could not rise to pursue his profession. On the succeeding night, Buonamico diminished the number of the beetles; but the repetition produced the same effect, and so frightened his master, that he determined to remove, being persuaded the house was haunted by evil spirits. Buonamico then sent to the parish priest that he might administer comfort. The priest came, and foud his mind; and Buonamico availed himself of the opportunity to make his observations on the probable cause of this perplexing event. He observed that he had always heard devils were great enemies to God; and consequently they must be so to all painters, as their practice was to paint saints and angels as perfect as possible, and endeavour to improve mankind, by shewing through all the circumstances of human life the happiness of heaven and the torments of hell; besides, whenever feuds were represented, they were made as hideous as the painters' imagination could suggest: and it was well known that devils had more power by night than by day, they played him this trick to keep him in bed, that he might not interfere with their region of darknes; by such obervations, which the priest thought very plausible, the old man was persuaded that it would be proper to lie in bed till daylight. After a few months, however, as the devils grew fainter in his recollection, Tafi's industry returned; but as they had played their part so well, Buonamico returned to his former expedient, which produced an effect not less frightful and imprudent. Priests were again sent for to restore him to tranquillity, who agreeing with Buonamico in the probable cause of this strange appearance, he determined to paint no more by candle-light, and this story was so generally circulated and believed, that all the painters in Florence were afterwards afraid to paint at night.

Among the first works of Buffalacce, were a series of religious pictures representing the life of Christ, painted in a church at Faenza, and other subjects from the Old and New Testament; among which the massacre of the Innocents is particularly mentioned by Vafari, where despair and terror, agony and distress were forcibly expressed. Of this work nothing now remains, except the original drawings in existence, which the same author describes to have been preferred in his time. He also painted in the cloisters of the abbey of Septimus, several historical subjects relating to St. James, to whom the church was dedicated; and on the ceiling he painted the four evangelists. He painted also many historical pictures on the outside of this building, which were well composed, and executed with skill. In these pictures he employed falt in the purple used for the shade tint of the fields, which so corroded and destroyed all the other colours, that, in Vafari's time, nothing remained but the purple; which premature decay this author at first attributed to dampness, but, upon minute inspection, found it was owing to the salt that was employed.

For the monastery of the Carthusians at Florence he painted upon panel two pictures in dipteram; and for the church of San Giovanni Decamerone, which were destroyed when the walls were beaten down in the war of 1526. He executed other works at Cortona and Perugia, Arezzo, and painted several pictures in the church of St. Petroono in Bologna.

In the cathedral of Siena is a Mosche pavement, made from his drawings; which at this day is a specimen of his abilities in design and composition, very honourable to his reputation. Some of his latest works were executed at Pisa, for
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for the abbey church of St. Paul, taken from the Old and New Testament; and in one of these, representing Noah's ark, he introduced his own portrait, which is the only portrait known of him, and is the same Vafarí introduced into the second edition of his "Lives of the Painters."

Baffalmaaco enjoyed considerable reputation, nor was the age wanting in admiring the opportunity to excel his talents; yet, from the following anecdote, he appears occasionally to have worked at a very low price. Vafarí has recorded, that he painted a whole length figure of St. Christophor, 12 braccia in height, nearly 23 feet, for 8 florins; and this fact is preserved for the sake of a whimsical circumstance that attended the execution of it. The picture was ordered by a convent, and was to occupy a wall in a church at Florence; when Baffalmaaco went to paint, he found the wall only 10 braccia in height; that his employer, therefore, might have no prejudice, he painted St. Christophor lying upon his back; but unfortunately even in this position, the wall did not admit of his whole length; he then turned up the legs perpendicular to the body, which was so exceedingly ridiculous, that when the countryman came to see his work, he flew into a violent passion, and demanded his money, declaring that he was both cheated and insulted, but the painter intimated that he had executed the commission with the strictest fidelity, and therefore could neither agree with him, nor comply with his requit; upon which the countryman brought an action against him, and in the result was not more successful.

This propensity to make merry with life, made Baffalmaaco regardless of the means by which its decline is supported; and at the advanced age of 78 years he died in extreme poverty and diftresses, supported in his last illnesses by the charity of an hospital, and buried by the company of the Misericordia. Vafarí has written his life in 13 quarto pages, containing little more than general commendation and whimsical anecdotes connected with the exercise of his profession.

BUONAROTI. See Angelio.

BUON-CONVENTO, in Geography. See Bon convento.

BUONHABITACULO, a town of Naples; 8 miles N. of Policastro.

BUONTALENTI, Bernardo, called Girandole, in Biography, a painter of history and portrait in miniature, acquired correctness of design, and the knowledge of colouring, from Salviati, Bronzino, and Vafarí, and the art of miniature-painting from Giulio Clovio. His works were much admired for the beauty of the colouring, and for a certain dignity of expression in his Madonnas, as well as in his portraits. Besides his merit as a painter, he was much approved as a flautist and an architect. He was born at Florence in 1547, and died in 1628. Dikington.

BUONVICINO, in Geography, a town of Naples, in the province of Calabria Citra; 11 miles S. E. of Scalea.

BUOY, a small island on the east coast of Newfoundland, between Ferryland head and harbour. See Boyle.

Buoy, in Sea Language, a body floating in water, to show either the situation of a ship's anchor, or a danger, as founds, shoals, &c. that it may be avoided. Buoys are of various forms, and constructed of buoyst materials, as wood, cork, &c. The names of the principal kinds of buoys are can, cable, or cable, mm, and wooden buoys.

A can-buoy is made in form of a cone. This kind is particularly employed in pointing out the extremities or sides of any dangerous bank, sand, &c. A buoy for this purpose is, therefore, large, that it may be seen at some considerable distance, and is fastened to an anchor, sunk in a proper situation, to point out the danger. When there are several buoys on the same bank or shoal, they are generally painted of different colours, to prevent mistake, as black, white, and red; this last colour is that which is best perceived, for a white buoy is not easily observed in broken water, and in many cases a black painted buoy is very indistinct. In going through a narrow channel, in place of having buoys on one side only, there are sometimes buoys on one side and beacons on the other; but as these last are more easily broken down by the violence of the waves, buoys may, therefore, be placed on each side; and to prevent mistake, those on the one side should be can-buys, and cable-buys on the other side.

For this purpose it has been proposed, in going in to all ports, to have can-buoys on the larboard hand, and cable-buoys placed on the babord hand; which varieties, experience has shown, may be perceived at a considerable distance. For the can-buoy, in consequence of its broad head, forms a cliff on its side; while the cable-buoy, being much narrower and lighter at its upper end, turns more upright, and higher out of the water.

Cable-buys are any common buoys used for buoys. When cables are employed to float, or buoy up the cable in different places to prevent it from being injured by rocks, &c. at the bottom, they are called cable-buys.

Non-buys are in form of the middle frustum of two cones, abutting upon a common base, being buoys, which are large in the middle, and tapering greatly towards each end.

Wooden-buys are solid pieces of timber, being in form either of a cylinder, or non-buoy. They are furnished with one or two holes, in which to fix a short piece of rope, whose two ends being spliced together, make a sort of circle or ring called a Harm. These several buoys are represented in the Plates of ships.

Buoy rope, the rope that connects the buoy with the anchor. The length of this rope should be very little more than equal to the depth of the water where the anchor is to lie, that the buoy may thereby float, as nearly as possible, immediately above the anchor, and consequently point out its situation. The buoy rope is useful in weighing the anchor, either by means of a boat, or when the cable is broke or run out; and, therefore, it should always be of sufficient strength for this purpose, otherwise the anchor may be lost. See Plate of ships.

Buoy, Sling of the, the ropes which are fastened about it, and by which it is hung. They are curiously spliced round the buoy, somewhat resembling the braces of a drum.

Buoy, to steer, is to let it fall from the ship's side into the water. This is always done before the anchor is let go, that it may not be retarded by the buoy rope, in its descent to the bottom.

Buoy of the Nose is situated about N. E. from Sheerness fort, on the N. W. point of the isle of Sheppey, the exit entrance into Chatham river, or the Medway; and it is at the extreme point of a sand, which runs E. N. E. from the isle of Grain, or west entrance of the Medway.

BUOYANT, denotes a thing floating, or apt to float.

BUPELUS, in Biography, a celebrated sculptor, descended from a line of ancestors of the same profession, was a native of Chios, and flourished in the 6th Olympiad, or 540 years B. C. His brother Abinias was also of the same profession. They worked only in the white marble of the isle of Paros, and executed several statues at Rome. They were contemporaries with Hippomenes, a poet of a deformed and contemptible figure, whom, for their diversion, they
they represented under a ridiculous form. The poet rendered himself by writing against them a parable, which, as from fays, caused to hang themselves. But Piny, fays, with the contrary, that after Hippomax had taken his revenge, they made several very fine statuettes, and particularly one of Diana at Chios, which was placed at a great height, and afforded a pleasing countenance to those who entered, and a pleasant one to those that departed. Faful, in the c.e. 35, p. 355, and d. g. c. 35, p. 371, i. 9 (Linnii) contained Euph. as a great architect as well as sculptor.

BUPARIA, in Etymology, a species of Pisiiia of the wonged kind; black, and glabrous; thorax lunated; jaws brown toothed, and as long as the head. Gen. Off. This is described by Forster under the name of Tereisio Buparum. It inhabits Spain.

BUPARIAI, in Botany, Rhed. Mal. See Hibiscus typicus.

BUPHAGA, in Ornithology, a genus in the order Picus, of which only a single species has been hitherto discovered; and which, being a native of Africa, has received the name of African. The generic definition consists in having the bill frigate, and somewhat quadrangular; mandibles gibbous, entire, and more gibbous on the outside. Legs formed for walking.

Linnaeus and Buffon have given this bird the name of Buphaga, and Buffon that of Picc-bœuf, from whence the epithet of bee-eater is derived. French authors of the present day write it Pique Bœuf. All these names refer to a peculiarity of the African Buphagas, which sometimes alight upon the backs of the cattle, and pick holes in them, in order to get at the larvae of the affri, or gads-flies, deposited by those tormenting creatures in the flesh, directly below the skin.

The species African is between eight and nine inches in length. The prevailing colour of the plumage above is brown; beneath, and also the rump, yellowish. Bill scarcely an inch in length. Tail complete, and colling of pointed feathers. Legs and claws black.

BUPHAGIUM, in Ancient Geography, a town of Arcadia, situated in the western part of it, south of Telphusa. It derived its name from that of the hero Buphagos, the son of Japetus and Thronax, who was slain on the mountain Ptolema, for daring to offer insult to Diana. Paulanius, l. viii. c. 27, p. 678. Ed. Kuhnii. BUPHAGUS, a river of Arcadia, which took its rise near Buphagum, and discharged itself in the river Alpheus. Pantheas. BUPHONIA, from Bup., ox, and φυους, slaughter, in Anthiquity, an Athenian feast or ceremony, denominated from a bullish, which therein with quaint formalities.

The buphonia was properly a part or appendage of the ceremony of Dipulon. For the origin of the buphonia we are told it was forbidden by the laws of Attica to kill an ox: but it once happened, at the feast of the dipulon, that an ox eat the corn, others say the cakes, which had been dressed for the sacrificers. Thaulon the priest, enraged at this, presented killed him, and fled for it. On which the Athenians, fearing the retribution of the gods, and feigning themselves ignorant, who had committed the fact, brought the bloody axe before the judges, where it was solemnly arraigned, tried, found guilty, and condemned. And, in memory of this event, a feast was instituted under the denomination of buphonia. In which it was still customary for the priest to fly, and judgment to be given about the slaughter of the ox.


Gen. char. Cal. common, incrustated with a double or triple series of scales, in some species all equal and shorter than the ray of the flower; in others, the outer series longer and exceeding the ray. Cor. compound, radiate; florets of the disc numerous, funnel-shaped, with a five parted rather spreading border; of the ray more than ten, ligulate, spreading, three-toothed. Stam. stamens five, capillary, very short; anthers cylindrical, united into a tube. Fil. of the disc. Germ ovate, compressed; style thread-shaped; the length of the stamens; stigma, thickish, either simple or bifid. Of the ray, germ capitate; style thread-shaped; stigmas two, oblong. Peric. common, the calyx unchanged. Seeds of the disc oblong; of the ray compressed, with sharp edges; both crowned either with a toothed, or galled, and almost leafy margin. Receptacle chaffy, convex. Eff. char. Receptacle chaffy. Seeds crowned with a toothed or galled margin, with sharp edges, particularly in the ray.

Species 1. B. afishom Linn. "Leaves opposite, lanceolate; petioles two-toothed; sten shrubby." A small shrub about four feet high. Stem straight, jointed. Bark greyish. Branches bushy. Leaves opposite, oblong, broader towards their summit, narrowed into a petiole towards their base, ciliate like those of Lycium, glaucous, covered with a very close, short down, and marked with three longitudinal nervils. Flowers yellow, terminal, foliar, peduncled. Calyx-scales ovate, a little tomentous. Sepals rather broad, short, and toothed. Calyx terminated by a sharp point. La Mareck, from a living plant. A native of the West-Indies and Virginia. Cultivated in the royal garden at Hampton Court in 1699. 2. B. Persiivaniae. La Mareck Ence. "Leaves linear-lanceolate, silky, obtuse toothed about the middle; stem shrubby." Similar to the preceding but smaller, and of a more vilvory appearance. Leaves narrow, and without teeth at their base. Flowers yellow, terminal, foliar, Calyx-scales ovate; semi-scales scarcely extending beyond the calyx. La Mareck, from a living plant. Found by Dombe in Peru. 3. B. arborescens. Dill. Ed. Tab. 39. fig. 43. Plam. sp. tab. 106. f. 2. "Leaves opposite, lanceolate, without teeth, thick, green." La Mareck. An evergreen shrub. Stems two or three feet high. Leaves opposite, connate, lanceolate, narrowed at their base, very entire, entirely green and glossy. Flowers yellow, terminal, foliar; semi-scales short; calyx-scales, large and smooth. La Mareck, from a living plant. 4. B. repens Linn. Hort. Clus. 44 (Verbeina mutica fop. plant.) but not Chrysanthenum humble of Plumier. "Leaves opposite, feathery, three-lobed; stem creeping." Stem jointed, producing at its joints small fibrous roots, and straight, leafy, flower-bearing branches. Leaves opposite, feathery, broad toward its summit, irregularly toothed, with three sharp-pointed lobes. Flowers yellow, silky, terminal. La Mareck. Native of South America. 5. B. durum Linn. "Leaves alternate, lanceolate, very entire; stem somewhat shrubby." Root perennial. Stem a little woody, branched near the top. Leaves alternate, oblong, entire, narrowed at their base, a little broader towards the summit, and terminated by a short point. Flowers terminal, foliar. Calyx-leaves rather large. La Mareck. A native of the Cape of Good Hope. 6. B. sericenum. Linn. Jun. Sup. "Leaves opposite, crowded, fruticose oblong, silky; calyx-scales brittle-shaped, shaggy; stem woody." Branches thick, woody, covered with the marks of former leaves. Leaves
Flowers on the smaller branches, very entire, clothed with a white, clove, and very soft pile. Flowers terminal, large, yellow. Lower calyx-florets larger, linear. Linn. jun. Gathered by Maffon in the island of Teneriffe. 7. B. speciosissimum Linn. Mant. "Leaves alternate, embracing the stem, ovate, naked, ferrate, somewhat ciliate; stem one-flowered." Root perennial, spindle-shaped. Stem too feet high, smooth, and even, marked with very fine white lines. Leaves alternate, acute, somewhat heart-shaped, compact, reticulated with veins; petioles dilated at the base, somewhat membranous. Calyx common imbricated with obtuse, ovate, large leaves. Florets of the ray folded, two or three-toothed, yellow; of the disc four-parted, erect, pedicelled. Stamina of the disc four, brown, without a germ. Germ of the ray ovate. Seed of the disc none; of the ray ovate, membranaceous. Receptacle hemispherical. Zoga, quoted by Linnaeus. Linnaeus places this species under Buphthalmum, but doubts whether it is not rather a Silphium. From Zoga's description it clearly belongs to the order polygonum necessarian. A native of the mountains about Brixen in the Tirol. B. grandiflorum Linn. La Marec. Illust. Pl. 683. fig. 1. "Leaves alternate, lanceolate, somewhat toothed, smooth; calyces naked, stem herbaceous." Root perennial. Stems numerous, growing in tufts, generally simple, about a foot and a half high. Leaves alternate, linear-lanceolate, sharp-pointed, smooth, slightly toothed. Flowers yellow, large, about two inches in diameter, terminal. Calyx rather short; composed of two rows of narrow-pointed leaflets. La Marec, from a living plant. 9. B. fulicifolium Linn. (Gart. Tab. 169. f. 1. copied by La Marec ill. Pl. 682.) "Leaves alternate, lanceolate, somewhat ferrated, pubescent, calyces naked; stem herbaceous." Root perennial. Stem a foot and a half high, straight, cylindrical, pubescent, reddish, divided at its summit into two or three short branches. Leaves embracing the stem. Flowers large, yellow, terminal, solitary, semi-florets very narrow. La Marec, from a dried specimen. Receptacle slightly convex; chaff the length of the calyx, broader upwards, keeled, toothed, the keel extended into a short, flexible arm. Seeds of the disc smaller, oblong, narrow, three or four-cornered, a little compressed, straight; of the ray, larger, incurved, three-sided, drawn out at the sides into a kind of wing: in both, truncate at the top, and crowned with a toothed rim. The rim of the seeds of the disc is sometimes so deeply gilded, as to appear composed of several chubby bristle-shaped leaflets. Gart. A native of the South of France, Austria, Switzerland, Lusatia, allied to the preceding, to which Gouan joins it, but differs in being abundantly pubescent, and having narrower semi-florets. 10. B. helianthoides Linn. (G. Herteric. flr. nov. Tab. 45. Helianthus levis. Linn. sproc. 1278. Silphium Solidaginoides. Linn. sproc. 1302. Rudbeckia opulifolia. Linn. sproc. 1282.) "Leaves opposite, ovate, ferrated, triplicate; calyx leaf; stem herbaceous." Root perennial, whitish, branched, fragrant. Stems several, two yards high, upright, branched at the top, naked at the base, round, the thickness of a quill, of a sea-green colour: branches opposite, stiff like the stem. Leaves remote, acuminate, ferrated about the middle, decurrent, veined, and wrinkled, flat, rechining, four inches long, two and a half broad. Petioles spreading, embracing the stem with a kind of ring, round on one side, channelled on the other, edged at the top by the leaf running along them. Flowers terminating, yellow, from two to three inches broad; peduncles commonly three, accompanying the uppermost leaves, stiff, very long, one-flowered, obscurely angular, thickened at the top, piliferous, sometimes with one or two linear sharp bracts. Common calyx concave, spreading, pubescent; petals lanceolate, acute, a little ferrated; those of the inner row spreading, and reflexed at the tip; those of the outer row few, twice the length of the other, and a little hanging down. Florets in the disc numerously, with a sharp, revolute border; in the ray about twelve, lanceolate, retuse, two-furrowed above, two-nerved beneath, spreading very wide, twice or three times the length of the calyx. Germ in the disc oblong, four-cornered and truncate; in the ray three-cornered. Seeds without any pappus or down, except the rim, which is scarcely thickened. Receptacle conical; chaff membranaceous, linear, acute, channelled-cone. This plant has the generic character of buphthalmum, the calyx of silphium or rudbeckia, and the habit of helianthus. Hence it has inadvertently been given by Linnaeus under four different names. L'Her. A native of North America, whence it was sent by Catesby to the botanic garden at Chelsea, but is said by Ferrler to be found wild every where within the tropics. La Marec describes a plant under the same specific name, brought from South America, cultivated in the royal garden at Paris, which does not correspond with the above description, and with some doubt whether it be that intended by Linnaeus. Its stems are herbaceous, feebly, not much more than a foot high, growing in loose tufts. Its leaves petioled, generally opposite, ovate, a little pointed, obtusely dentate, green, almost smooth, and feebly an inch broad. Flowers yellow, rather small, solitary, peduncled and terminal. Calyx of two rows of oblong scales, those in one row not longer than those in the other. The juice of the plant is a little caustic. 11. B. finfofinum, Linn. (La Marec, Pl. 682. fig. 2.) "Calyces acutely-leaved; leaves alternate, lanceolate, embracing the stem, very entire; stem herbaceous." Root annual. Stem a foot and half high, stiff, hairy, with two or three alternate branches at the top. Root-leaves long, spreading, broader and almost obtuse at their summit, narrowed at their base. Stem-leaves lanceolate, hairy. External calyx-leaves very long, three-nerved, ending in a spine, spread open immediately under the flower like the points of a star. Flowers yellow, solitary, terminal; semi-florets very narrow. La Marec, from a living plant. A native of Languedoc, Spain, and Italy. 12. B. aquatimum, Linn. (Gart. Tab. 169. copied in La Marec, Illust. Pl. 682. fig. 4.) "Calyces obtusely-leaved, fifeile, axillary; leaves alternate, oblong, obtuse, stem herbaceous." Root annual, white, fibrous. Stem about a foot high, much branched, cylindrical, pubescent. Leaves alternate, fifeile, oblong, obtuse, hairy. Flowers yellow, rather small; some fifeile and axillary, others terminating; semi-florets broader and shorter than those of the preceding species. Outer calyx-leaves obtuse, soft, forming a kind of involucro to the flower. La Marec, from a living plant. Calyx leafy at the base. Seeds compressed, bay-coloured, bifid, with whitish bristles, nearly uniform; those of the disc smaller, ovate, acuminate downwards; those of the ray larger, triangular-wedge-shaped, much compressed at the sides, and almost winged; both of them crowned with a many-leaved pappus, the leaflets of which are membranaceous, acuminate, ciliate-toothed, half the length of the seed. Gart. A native of the south of France, Portugal, and the Isle of Candiis. 13. B. maritimum, Linn. (La Marec, Pl. 682. fig. 5.) "Calyces obtusely leafy, peduncled; leaves alternate, spatula-shaped; stem herbaceous." Root perennial. Stems numerous, six or seven inches high, hairy, branched. Leaves long, obtuse, very narrow at their base, hairy. Flowers yellow, rather large, solitary, terminal. External calyx-leaves resembling those of the stem. Native of Sicily and the southern parts of France. La Marec. 14. B. villosum, Martyn's 'Miller. "Calyce leaflets acute, connected laterally; leaves opposite, lanceolate,
late, carved back." *Salm* herbaecous, two feet high, upright, round, whith, smooth, branched. Leaves linear-lanceolate, unequally toothed, smooth, juicy, thick, all-coloured. Uorse large, foliary, Caflp hemispherical, with sharp leaves, connected by a lateral membrane. Disc of the corolla flat, with yellow flowers; ray wide, spreading, with many white, disk flowers. Receptacle flat, with very small chaff; crown of the disks margined. *Sinja* in the flared of the disk simple. *Lorr. Cochin*. It is an \odious plant, and cultivated in the gardens of China as a pot-herb. *Burdeus* found in Norfolk Island; *B. procumbens*, found in the Friendly Islands. *Off. Jull. doubts whether the fraxitent species, with opposite leaves, should be placed in the same genus with those that are herbaecous and have alternate leaves. And *Gartn. is of opinion, that if the feed in all the *Afteris of Tournefort*, be not merely margined, but leafy, they ought to form a separate genus.

**Description and Culture.** The first two species can be propagated in this country, only by cuttings, which should be taken off in July when the plants have for some time been exposed to the open air; planted in small pots filled with light loamy earth, and plunged into a hot-bed of a very gentle warmth; shaded from the heat of the sun, and occasionally refreshed with a small quantity of water. In about six weeks they may be gradually acclimated to the open air, and soon after should be transplanted into fresh pots; when they have taken root, they may remain in a sheltered situation, till the middle of October, and should then be removed into the green-house. The first sort is harder than the other. The seeds of *Spinafior* and *Aquaticum* may be sown on open borders, either in the beginning of April, or, which is better, in Autumn, and will require no other care. The *Maritimum* is easily propagated by slips during the summer season, and requires the same treatment as the first and second, but will thrive better in a common frame, screened from frost, than in a green-house. The *Filicinis*, *Grandiflorus*, and *Behnianus*, may be propagated by parting the roots towards the end of October.

**Buphthalmum* campaniflorum* leuconothum. Pluk. See *Chrysanthemum frutescens.*

**Buphthalmum** lanuginosum, C. Bauh. See *Anacyclus valentinus.*

**Buphthalmum** rotula folio, and *floro leuto. 2, 3. C. Bauh.; *transfolium*, J. Bauh.; *creticum*, Breyt.; *alterum pennis*, Dalch.; *flor purpurascens*, Cam.; and *nervosum*, CUS. See *Anthemis valentinus.*


**Buphthalmum**, Liney Hort. Clif. 415. See *Amellus lychnitis.*


**Buphthalmum birratum**, Brown 1. 321. See *Silphium trilobatum.*

**Bupleuraria**, in *Entomolog*, a species of *Phalla* (Geometra). The wings are dotted, green, with a white streak, and a smaller one of the same colour; margin dotted with brown. *Fabr.*

This inhabits Europe. *Knoch describes it under the name of Phalaen fujurinii.*

**Bupleurifolia**, in Botany, Pluk. See *Corymbium cerebrum.*

**Bupleurigides**, Walch. See *Phyllis nodosa.*

**Bupleurum**, (from *phalos* and *plutos*, bowis cura, the rib or side of an ox, alluding, as explained by professor Martin, to a suppressed ill quality of building kine that fed upon it; but this explanation is better suited to the etymology of *phalos*, from *phalos* and *plutos*, to infringe, a name given by the Greeks, not only to an infant of the eunuch kind, but also to a plant noxious to cattle, which has been supposed to be the same with the bupleurum of Nicander, *Phallus*, and other ancient writers. Ventenat, with greater probability, is of opinion, that the name bupleurum alludes to the *fdaa*, (reindeer) of the leaves of several species of this genus. The name derivation was intimated long ago by Dodonaeus, who, speaking of the probable identity of the plant, now called bupleurum, with the ancient one, says, "nece pellime quadratam nomencluderit et illuciam visor: folia namque longissimus, multae frutices rigidissimae, quae collas in foliis sanguinis efficiantibus, et laterum modo inclusi, ut de heptapleurio loquitur Pinus."


Gen. Ch. Cal. Umbel universal, with fewer than ten rays; partial with scarcely ten, erect-expanding. *Involucrurum* universal, either of many leaves, or of from three to five, none; partial of several broad leaves; either distinct, or all united at the bottom; *perianth* proper, obsolete. *Cor. universal, uniform; florets all fertile, proper, petals five, involucre entire, very short. Stem. five, simple, anthers round. *Pylr. Gere inferior. Styles two, reflexed, small; *ligula* very small. *Peric. none. Fruit roundish, compressed, splitting in two. *Seeds* two, ovate-oblong, convex on one side, flat on the other. *Off.* In most of the species, the partial involucres are fleshy, often longer than the corolla.

**Effen. Char. Leaves of the partial involucres broad, spreading. Fruit ovate, gibbous, small, not crowned at the top.**

**Spec. *Herbaecae.* 1. B. retundalorum, Linn. Huds. 111. With. 267. Smith 124. (Perfoliata C. Bauh. &c.) Gart. Tab. 22. fo. 7. La March, 1st ed. 180. Eng. Bot. 99. Thoro-whax. "Universal involucres none; leaves perfoliate." Linn. *Root* annual, small and fibrous; whole plant rigid and smooth. Stem erect, alternately branched, round, leafy, perfoliate. *Leaves* alternate, ovate, acute, very entire, somewhat glaucous, curled. *Umbels axillary* and terminal, solitary, on long peduncles, five or seven-rayed, entirely delirious of an universal involucrum; little umbels of about eight flowers; partial involucres of five, ovate, acute, unequal leaves, longer than the flower. *Flowers* yellow, on short peduncles. *Dr. Smith*, and La *March*. *Fruit* small, ovate, inflated, gibbous, black. *Seeds* ovate-oblong, gibbous, terminated at the top by a very narrow, reddish-brown disk; marked on the convex side with thirteen elevated, linear frills or streaks; on the flat side with a simple furrow. *Gart.* It derives its English name from its perfoliate leaves, or as professor *Martin* accurately expresses it, from the singular circumstance of the stalk running or growing through the leaf, by which it may be distinguished from all other indigenous plants. Like the fanatic, it has the reputation of being a vulnerary; but this, says Dr. *Smith*, (Eng. Bot.) is a quality which no medicine can have, any otherwise than as a tonic, strengthening the constitution; nor can any external application be specifically healing or consolidating, or be useful in any other way than as a defence from the air. *La March* speaks of it as an all-rigent, and says that it is used as a callaphe in unblissful ruptures: but in this case, its operation can be only mechanical. A native of most parts of Europe, chiefly on a calcareous soil, but not very common in England. *Martin* intimates, that it is peculiar to the southern countries, and says, that he has never observed it, except among wheat. We have occasionally found it in the neighbourhood of Leeds, but always among beans. 2. B. *hellatum,* Linn.
“Leaves of the partial involucres united; universal involucre of three leaves.” Root perennial. Stem about a foot high, round, almost raked, often simple. Root-leaves very long, smooth and grass-like. Universal involucre of five, or six rays. Universal involucre of one, two, or three lanceolate leaves. Partial involucre of one leaf, cut off entirely at the edge of eight or nine segments, surrounding the flowers in the form of a cup, or basin. La March and Martyn. A native of the Alps of Switzerland, a d Dauphiné, introduced into England in 1775 by Dr. Pitcairn and Dr. Fathergill. 5. B. petraenum, Lindl. and Willd. “Partial involucre united; universal involucre of five leaves.” Linn. “Little involucre of about five united leaves; universal involucre of five leaves; stem-leaves heart-shaped lanceolate, embracing the stem; radical leaves linear.” Willd. Radical leaves linear, sessile. Leaves of the universal involucre five, equal, rather broad; of the partial involucres five, united as far as the middle. Linn. A native of the Alps of Switzerland. According to Villars this is only a variety of the preceding. 4. B. graminifolium, Willd. (B. petraenum, Jacq. Collect. 1. p. 293. Icon. rar. t. 56. Vill. ddb. 2. p. 576. t. 14. Alion. Aud. p. 24. La March. Flor. France. 1990. Encyc. vol. i. 517. Martyr in Miller; description but not the specific character nor all the synonymy. Sedum petraceolum bupleuri folio, Pou. bald. 247. B. alpinum, Seguier Veron. 2. p. 15. 3. p. 221.) “Root-leaves long, very narrow, grass-like; partial involucre distinct, general one of about five leaves.” La March. Root perennial, long, thick toward the top. Root leaves numerous, five or six inches long. Stem about eight inches high, round, simple and leafless, or having a single branch near the top, with one leaf at the base, and an umbel of flowers at the end, smaller than that which terminates the stem. Umbel lozenge, of fix or seven rays. Universal involucre of three or five leaves; partial involucre of five, six or seven small, lanceolate, serrated, very distinct leaves. A native of the mountains of Dauphiné, Provence, and Switzerland. 5. B. angustifolium, Linn. (B. ranunculoides & La March.) “Partial involucre five-leaved, orbiculate, general involucre three-leaved, ovate; leaves embracing the stem, heart-shaped lanceolate.” Nearly allied to B. Rellatum, but the leaves of the partial involucre are always distinct: it varies in having its leaves very narrow and rounded, or lancesolate, and not serrated. Linn. The former variety is a native of Switzerland, the latter, of the Pyrenees. 6. B. pyracetum, Willd. (B. pyracetum, Gouan and La March.) “Partial involucre rounded, emarginate, united; universal three-leaved, cut at the base; leaves lanceolate, heart-shaped, embracing the stem.” Willd. It differs from B. angustifolium in having much broader, lanceolate, acute leaves, the radical ones nearly at the base; and in the rays of the umbel being shorter and fewer; as well as in the peculiar shape of the general and partial involucres expressed in the specific character; from B. Rellatum which it resembles in habit, in its broader leaves, those of the stem being much more numerous and heart-shaped at the base; and in the number of the divisions of the partial involucres. Willd. A native of the Pyrenees. 7. B. longifolium, Linn. “Partial involucre five-leaved, ovate; general one of about five leaves; leaves embracing the stem.” Root perennial. Root-leaves narrowed into a petiole at their base, and broad towards their summit. Stem-leaves ovate, acuminata. Umbel terminal, composed of from six to nine rays. It resembles B. rotundifolium, but differs in its perennial root and longer leaves. Native of mountains in Germany, Switzerland, &c. B. B. falsatum, Linn. Hare’s-ear. “Partial involucre five-leaved, acute; general, commonly five-leaved; leaves lanceolate; stem zigzag.” Root perennial. Stem upright, about a foot high, slender, round, slightly zigzag, much branched, sometimes tinged with purple. Leaves frequently sickle-shaped; those next the root narrowed at their base into petioles, ovate-lanceolate, bright green, smooth, a little nerves; the others almost linear. Universal involucre of five, or six rays; partial, of five to twelve. Universal involucre of from two to five, very unequal, lanceolate, sharp leaves, partial, of five lanceolate, regular leaves, the length of the partial umbel. A native of dry rocky soil in the south of Europe. It has the character of being a vulgar and trifid. La March and Martyn. 9. B. cariciifolium, Willd. (B. gramineum, Villars.) “Partial involucre, five-leaved, sharp-pointed; universal one-leaved, lanceolate; leaves linear, attenuated at the base.” Root perennial. Radical leaves very long, acute; stem-leaves, the lower ones a little attenuated, the rest sessile. Umbel of five or six unequal rays longer than the involucre. Partial involucre five-leaved, lanceolate, sharp-pointed. Willd. from a dried specimen. A native of the south of France and Switzerland. 10. B. edontites, Linn. “Partial involucre, five-leaved, acute; universal, three-leaved; the central floret higher; branches divaricat.” Linn. “Both involucre five-leaved, bellate; leaflets lanceolate, three-nerved; rays of the umbel very unequal.” La March. Root annual. Stem from three to eight inches high, somewhat angular, much branched. Leaves linear-lanceolate, narrow, smooth, sessile. Involucres awned, concealing the umbels. La March and Martyn. Seeds only a quarter the size of those of B. rotundifolium, not fringed, either slightly wrinkled or entirely plain, ovate-cylindrical, brown or blackish. Gartn. A native of the south of Europe. 11. B. fimbriatum, Linn. “Umbels both compound and simple.” Root annual. Stem fix six inches high, furnished from its base with alternate, rather divaricat branches. Leaves oblong, narrowed into petioles at their base, broad and obtuse at their summit, and ending in a particular small point. Simple umbels peduncled; compound, almost sessile. Allied to the preceding, but differing from it constantly in such remarkable characters, that it ought to be regarded as a variety. La March. A native of the south of Europe. 12. B. ranunculoides, Linn. “Partial involucre, five-leaved, longer; universal, three-leaved; stem-leaves lanceolate.” Root perennial, creeping. Stem about eight inches high, simple. Leaves grass-like, stiff. Umbel unequal. Universal involucre ovate, acute, short; partial, equal, obovate, acute. Partial umbels small, the length of the involucre. La March follows Haller in uniting this species with the angustifolium. Gouan adds the petraceum, to which Villars objects as far as the sedum petraceolum bupleuri folio, gathered by Pana on Mount Baldo is concerned, the graminifolium of Veke and this dictionary; but Villars himself suspects that the angustifolium, and his graminifolium, which is Willdenow’s and our caricifolium, may be only varieties of ranunculoides. A native of Switzerland and the Pyrenees. 13. B. rigidum, Linn. “Stem dichotomous, almost naked; involucres very small, acute.” Linn. “Stem much branched, panicked, almost naked; lower leaves petioled, nervet, rigid; umbels generally of three rays.” La March. Root perennial. Stem slender, nearly two feet high. Lower leaves lanceolate-elliptic, with strong white nerves; upper leaves very small and dilated. Umbels terminal, of two, three, or four rays. Universal involucre of three awl-shaped, very short leaves; partial, of five. Linn. and La March. A native of the south of France. 14. B. lenicinum, Linn. “Slender thorough-wax, or leaf hare’s-ear.” (Eng. Bot. 478.)

“Umbels
"Umbels simple, alternate, generally three-flowered; involucres of five awl-shaped leaves. Dr. Smith. "Terminal umbel compound; lateral, simple, with few flowers; involucres universal and partial, short." La Mareck. Root annual, tapering, but little branched. Stem about a foot high, zig-zag, slender, stiff, smooth, erect, with several alternate branches. Leaves alternate, lanceolate, narrow, pointed, entire, tapering at the base. Umbels axillary, nearly sessile, foliary, generally three-flowered; involucres awl-shaped, longer than the flowers. Dr. Smith. Terminal; umbels compound, of from three to five rays; with a general involucre of from three to five short, pointed leaves; lateral, simple, and extremely small. La Mareck. Fuller remarks that the umbels can scarcely be said to be really compound. Fruit small, ovate-oblong, tranversely thicker, rounded on each side, somewhat emarginate. Seeds pentagonal-prismatic, marked on the convex side with three acute-angled and distast ribs; the intervals a little wrinkled, of a pale or ash colour. A native of Germany, France, Italy, and England. It is found plentifully in salt water ditches on the coasts of Norfolk, Suffolk, &c. and, as is asserted by Hudson, more sparingly inland, about Cambridge and Huntingdon; but professor Martyn observes, that it has probably been overlooked in many other places; being a plant of little appearance and almost lost among the grass. 15. B. baldejus, Wild. "Stem erect, branched; leaves linear; universal involucres of about four unequal leaves, shorter than the umbel; partial involucres five-leaved." Root perennial. Radical leaves linear, broader at the base. Universal involucres of three or four leaves, two larger than the others. A native of Croatia, Carniola, and monte Baido. 16. B. Gerard, Murray Syll. 274. (B. junceum, Marn. Roth. Pollich. jun. &c, jun. &c, La Mareck.) Ger. Prov. 335. Tab. 9. foro. "Stem crenate, much branched; leaves linear, acuminate; universal involucres five-leaved; partial, five-leaved, linear-awl-shaped, longer than the umbel." Root annual. Stem from six to nine inches high, slender, smooth, with straight stiff-mixed branches. Leaves linear, grading-like, clasping the stem, ending in a very short point, marked with three fine nerves. Umbels on long peduncles, lateral and terminating. Universal involucres four or five leaved, linear, awl-shaped, very unequal; partial, four or five-leaved, linear-spatulate, unequal, longer than the flowers. Flowers nearly sessile. Seeds oblong, flattened, appearing, as if cut off at the tip. A native of Provence and Austria. 17. B. junceum. Linn. &c, Li Mareck. "Stem crenate; pinnate; leaves linear; universal involucres three-leaved; partial, five-leaved." Root annul. Stem from two to three feet high, straight, round, hollow within, branched in the upper part. Umbels small; lateral ones simple, of one or two flowers; terminating one compound, of two or three short rays. Universal involucres of two or three leaves, awl-shaped and unequal; partial, of about four linear-awl-shaped leaves. A native of the south of France, Italy, and the Levant. 18. B. arboreofsim, Wild. "Leaves oblong, very entire, petiolate." Thumb. Prod. 50. It differs from the preceding in having petioled leaves, very acutely, not bluntly, pointed at their summit; and umbels only half as large, on short peduncles. 21. B. coriaceum, Martyn and Wild. Att. Kew. L'Heret. Stirp. nov. (arboreofsim Jacq. C. R. 2. tab. 351. obliquum Vahl. Symb. gbraitemicum, La Mareck Encey.) "Leaves lanceolate, attenuated on both sides, very entire, sessile. Wild. "Leaves lanceolate, coriaceous, oblique." Hott. Kew. Root perennial. Stems from three to four feet high, upright, sparingly-branched, round, annulated with the scars left by the fallen leaves. Branches alternate, upright, marked with these fibrous; Leaves alternate, approximating, long, acuminate, a little coriaceous, half embracing the stem, with a sharp, reflexed point, and one whitish nerv, glaucous, permanent, five inches long and near an inch broad. Umbels of about fifteen rays, alternate, on a common peduncle terminating each branch, with a few leaves on its lower part, a foot and a half long, and not half the thickens of the branch from which it springs. Universal involucres of about eight, oblong, acuminate, slightly convex, reflexed leaves; partial, five-leaved, smaller, ovate. Seeds oblong, rounded on one side with five wings, flat on the other. The whole plant is very fragrant when rubbed. La Mareck and Martyn from l’Heretier. A native of Spain near Gibraltar; found by Maffon, and introduced in 1784. 22. B. fruticosum, Linn. "Leaves linear; involucres universal and partial." A native of Spain, 23. B. fruticosum, Linn. jun. Supp. "Old branches of the panicle naked, thorny; leaves linear." Root perennial. Stem low, irregular, with divaricated branches. Leaves acuminate, three-nerved. Universal umbel terminal, generally of three rays, which change into spines after the fruitification is completed; partial, of five rays. Involucres of very small leaves, equal in number to the rays. Linn. Jun. and La Mareck. A native of Spain. 24. B. difform, Linn. "Spring leaves decumbent, flat, grafted; summer leaves filiform, angular, trifid." Stem from five to six feet high, franglant, a little twilled, branched. In winter, and the beginning of spring, it bears two sorts of leaves; the first small, petiol, composed of three, flat, trifid, grafted leaflets resembling those of parsley; the others longer, linear, filiform, angular, divided half way down into three filiform segments, the middle one the longest, and each terminated by a very small point. If summer the former kind fall off. La Mareck. Universal involucres of many awl-shaped, thriviling leaves, connected at the base; partial, of five leaves. Umbels some simple, others compound. Linn. A native of the Cape of Good Hope.

Propagation and Culture. The buplenniums in general are cultivated only in botanic gardens. The seeds should be sown in autumn, where the plants are designed to remain, for they are injured by transplanting. The fruticosum, called by our gardeners shrubby Ethiopian Hartwood, will thrive in the open air, and is propagated by cuttings planted in pots filled with fresh loamy earth, and sheltered in winter under a hot-bed frame; they will take root in spring, should be placed in a shady situation in summer, and will not be fit to transplant till the autumn. The fruticosums may be treated in the same manner, but is not so hardy. The difforme may also be propagated by cuttings, which readily take
take root if planted in April, in pots filled with light earth, and plunged into a moderate hot bed. They should afterwards be ensured to the open air by degrees, be transplanted into separate pots, placed with other exotics in a sheltered situation till autumn, and then removed into the green-house or dry house. If propagated from seeds, they should be sown in autumn, sheltered under a frame in winter, removed to a very gentle hot-bed in spring, and finally treated like these raised from cuttings. The spinoform, nudum and coriaceum may all be propagated by cuttings, and treated as the others. They will probably bear the open air in mild seasons, but are not yet sufficiently common to run that hazard. MARTYN’S MILLER.


BUPORTHUS, in Ancient Geography, a mountain at the extremity of the peninsula formed by the Argolid, south-east of Peloponnesus. Upon this mountain were two temples, one of Ceres and Proserpine, and another of Minerva and Pan. Panathenae.

BUPRASION, a town of Achaia, at a small distance north of the river Peneus and of the town of Elis, which gave name to a fruitful country in which it was situated. It did not exist in the time of Strabo.—Alfo, a river of Peloponnesus, in the country of Elis. Steph. Byz.

BUPRESTIS, in Entomology, a genus of coleopterous insects, distinguished in a peculiar manner for the uncommon brilliancy and highly metallic splendour of their colours, which emit the finest and most beautifully polished metals. The insects of this kind have the antennae serrated, and as long as the thorax; feelers four, which are also filiform, with the last joint obtuse, or truncated; head partly retracted within the thorax.

Linnaeus, Fabricius and Gmelin describe the following species: unidentata, bicolor, gigantea, vittata, fallax, punctatissima, bicornis, cornuca, decora, lirata, oblicrura, punctata, fasciata, rufca, firiata, ritulans, ocyguttata, ignita, lineata, occelata, aerora, maculata, maculofus, rufca, loricaria, chrysis, violacea, aegyptica, mariana, farinosa, fulminans, cyanipes, modelia, blanda, aurata, tripunctata, elegans, chrysoligata, dorsata, impellera, ornata, taeantia, carycineria, cyllindrica, fuscra, trochilus, decldigna, rufca, canaliculata, acuminata, plebeja, tranquebarica, lugubris, cariosa, undulata, anritnica, fribica, splendens, fusca, auruta, tenebrionis, tenebriuscularis, varicoloris, onopordi, hirta, rubra, deaurata, nitidula, lea,fails, cyanca, dicotidea, bimaculata, quadrimaculata, novemmaculata, tridens, deciprata, cucprea, nobilis, barbarica, uniusbellarum, quadruptionata, cruciata, manca, pygmaea, minuta, meditubata, viridis, bidentata, atra, elata, ruficollis, fulvice, linearis, granularis, depreffa, calcicara, fulgirosa, luzemmordialis, quercus, hirufa, 11-maculata, fexmaculata, varicoris, acuta, nuzca, pia, inaurata, tatarica, virginiaca, nana, marginata, nigra, rofacea, ungurica, nebulofo, bruttia, flaphaniellus, rugofo, and coccinia, which see respectively.

A monograph of the buprestis tribe is expected from the pen of Dr. Schreiber of Vicenza, which, in all probability, will contain a greater number of species than those enumerated above. Several entirely new species are also described by Mr. Donovan in his recent elucidation of the entomological productions of New Holland; the most remarkable of which are buprestis grandis, macularia, limbata, futurialis, guttata, and several varieties of variabilis, and imperialis, the last of which is mentioned by Fabricius. Synt. Eleuth.

Some writers affirm that the larvae of the buprestes live in the solid wood, or in the trunks of decayed trees; but this is rather uncertain, since they do not appear to be exactly known in that state. The conjecture is, however, plausible, the perfect insects being almost constantly found upon trees, or plants, and flowers. Few species of this beautiful tribe of insects are found in Europe; the largest and most brilliant of those hitherto discovered, are from the Brahils, and other hot climates.

BUPRESTIOIDES, a species of Attelabus (Spordylis), the colour of which is black; shells nervous; thorax somewhat globular. Gmel. Fabr. &c. Described as Buprofis anser by Linn. Cerambyx maxillosus, &c. Degeer. Scarabeus, &c. Franch.

Buprestoides, a species of Caramus, of a black colour; antennae and feelers ferruginous; legs pigaceous. Inhabits the fourths of Europe. Gmel. &c.

BUQUO, in Geography, a town of France, in the department of the Straits of Calais, and district of Arzas; 5 miles W. of Bapaume. N. lat. 50° 14’. E. long. 2° 40’. BUR Parfrey, in Botany. See CauCulis.

Bumseed. See Starnanum.

Bura, in Ancient Geography, a town of the Peloponnesus, seated on the ridge of a mountain, west of the river Crathis. It suffered much from an earthquake in the year 373 B.C. Paunianias mentions several fine statues of this city, and particularly those of Ceres, Venus, Bacchus, and Lucina. Venus had a temple, in which was placed her marble statue, made by Lucid, an Athenian statuary. BURA, in Geography, one of the smaller Orkney islands, between Yomona and Ronalda.

BURACO do sol, in Ichthyology, the name of a fish caught on the shores of the Brahils, and more usually known among authors by its Brazilian name, Guaiba-coara.

DURACRAG, in Geography, a river on the coast of Barbary, which rives in mount Atlas and falls into the Atlantic ocean at the town of Salle.

BURAMOS, an idolatrous people of Africa, in Nigritia, on the borders of the river St. Domingo. Their country extends to the mouth of the Rio-Grande.

BURANELLO, in Biography. See Galuppi.

BURATTI, or Burats, in Geography, the name of a barbarous and idolatrous nation, which occupies part of Siberia. They are called Bravi by the Brahils, and among themselves Barga Burats. About the time of the Mongolian monarchy, or perhaps at an earlier period, they seem to have taken refuge in the wild mountainous region on the north side of the Baikal, which they still inhabit. The Brahils found this nation in Siberia, when they conquered that country; and from the year 1647 they have peaceably submitted to the Ruffian supremacy. The whole nation is at present, in consequence of the border treaty, under the dominion of Russia, and composes numerous heathenish people in the government of Irkutsk, where it inhabits the region from the Yenisey, along the Mongol-Chinese borders, on the Angara, Tunguska, and the upper Lena, about the southern Baikal, on the Selenga, the Argoon, and its rivers. Several years ago this government was computed to contain 32,000 tributary Burats; but their present number is probably four times as large. They are divided into a great number of tribes, called " Kolbonda," which are subdivided into cafis, or " Amaks," and each Amak is composed of a certain number of "Chottons," or villages, containing 10 or 20 families. The oldest of the Chottons governs it, and chief of these Chottons is subject to a "Schulfeng," or judge, chosen from among their chiefs, and confirmed in his office by the governor of the province. Twenty-four Schulfengs form a tribe or Kolbonda, which is commanded by a common chief, selected from among the families of their ancient princes. It is his province to watch the
the observance of the laws, to decide disputes, to diminish or augment the tribes, and to assemble and command the proportion of recruits, which are furnished by the nation in time of war, till they are united to the main body of the army.

Catherine II. with a view of annexing dignity to this chief, gave orders that he should wear a girdle ornamented with silver, on which is inscribed the name of the chief he commands; and the Buratt has become proud of this decoration, though it is merely a mark of his slavery. According to the accounts taken in 1792, this nation forms 65 calls, containing 32,000 bow or heads of families; and as they speak the Mongol language, profess the religion of the Kalmucks, lead a similar kind of life, and manage their flocks in the same manner with the Bashkirs, it will be sufficient to refer for an account of several particulars relating to them to the articles Bashkirs, Kalmucks, and Mongols. They have, however, some customs peculiar to themselves. They are allowed to marry as many wives as they can afford to purchase; and the price of a bride is paid in cattle of different kinds. A young girl, according to her beauty and character, may, among the rich, receive 100 horses, 20 camels, 50 horned cattle, 200 sheep, and 30 goats. When the cattle are delivered, the nuptials are celebrated. For this purpose they erect a "Jurte," of felt, entirely new, of a white colour, and very neat. The three first days are spent in feasting, singing, and dancing; and on these occasions the musical instrument is a guitar with two strings, resembling that which the Russians call "Balaika." At the expiration of these three days, the marriage is consummated. When a husband dies and leaves several wives, the he who has borne him children, or the child of such as have had children, becomes the mistress of the Jurte. Those who have had no children, return to their relations on line of horses, and carry with them the clothes and presents which they received from the husband. If they have no place of retirement, they continue in the Jurte, subordinate to the wife mother, and are entitled to the tenth of the cattle left by the husband. The Burati resemble the Kalmucks in outward form, with some slight variations. Their countenance is fair, and though they are tall, their bodily structure is feeble, and they seldom attain to an advanced age. They formerly suffered much from the small-pox, but since an inoculation has been introduced at Irkutsk, the mortality seems to have been much diminished. They now frequently inoculate their own children. They are much subject to the itch, from their manner of living, food, and clothing. In chronic diseases they use the warm baths on the coast side of the Bashkirs. Their physicians are the Shamans, who pretend to heal them more by sacrifices, incantations, and spells, than by natural means. They submit to the chace and by their flocks. A Bu is known to police a thousand sheep, besides horses, and other cattle. Their habitations are hexagonal cabins, constructed with beams laid over one another, to the height of about 3 feet, with an opening formed at the top by flaxes for the discharge of the smoke. The Burats are a principal branch of the Kalmucks, and differ from the Tungus only in their language, which is Mongolian. Tscheko's View of the Russian Empire, vol. i. and ii. Chartres' Travels in Russia, vol. ii. Eng. ed.

BURAZ, a town of Afiaitic Turkey, in the province of Natalia; 38 miles S. E. of Degniuzu.

BURBACH, a town of Hungary, celebrated for its wine; 8 miles E. of Eisenstadt.

BURBARUS, in Ichthyology, the name given by Paul Jovius, and some other writers on fishes, to the common carp, Cyprinus carpio.

BURBAS, in Commerce, a small coin at Algiers, with the arms of the city struck on both sides, worth half an apsar.

BURBER, an Egyptian piece of money. It is a thick piece of copper, about as broad as a sixpence; twelve of these make a medall there.

BURBIDA, in Ancient Geography, a town of Spain, between Tuda and Turqua. Anton. Itin.

BURBOT, in Ichthyology, the English name of gadus lota, a fish common in the Trent, and some few other of our rivers. It is also known by the appellation of the eelpout. This is nympha lutescens of two or three old Latin writers.

BURCA, among the Turks, the name of the rich covering of the door of the house at Mecca; it is ten feet long, and five wide; and there are several figures and Arabic letters on it, very richly embroidered in gold, on a ground of red and green. This is carried about in their solemn processions, and is often made to float, that the people may touch it.

BURCA, in Ancient Geography, a town of Africa in Mauritania Caftaricae. Ptolemy.

BURCARDIA, in Botany (from J. H. Burckhard, M. D. who published Charac. Plant. 1792), a genus formed by Scopoli, and adopted by Schreber, for a plant described by Aublet in his account of the plants of Guinea, and called by him Piriqueta, which has been referred by Willdenow and Bofe to the genus Turnera. See Turnera nusega.

BURCHAN, or Burchanis, in Ancient Geography, an island placed by Pius between the Rhine and the Cimbric promontory. It was reduced by Darius, who employed for this purpose all the Roman forces in those parts.

BURCHARDIA, in Botany. See Callicarpa Americana.

BURCHAUEN. See Burkhauen.

BURCHEIM. See Burkeim.

BURCHIELLO, in Biography, an Italian poet, whose family name was Domenico, was a native of Florence, where he exercised the trade of a barber, and where his shop was the usual rendezvous of the men of letters in that city. He died at Rome in 1448. His poems, which were a singular kind of burlesque, abounded with licentious expressions, old proverbs, and various extravagances, often unintelligible, and frequently low and indecent, but intermixed with flashes of wit and vivacity, that became very popular, and established a kind of style, called the "Burchellicique," which had several imitators. The pieces of this poet are chiefly sonnets, of which the first edition appeared at Bologna in 1455; and another edition, with a comment, no less hard to be understood than the original, was given at Venice in 1558. The Junta at Florence published all his poems in 1552 and 1558. Whatever amusement performances of this kind might afford in a rude age, and in the infancy of poetry, they have sunk into obscurity by the prevalence of good taste and decorum. Mr. Rococo, in his "Life of Lorenzo de Medici," informs us, that a satire of Burchiello in terza rima, after the manner of Dante, exists in MS. in the library of the duke of Tufany.

BURCKERSDORF, in Geography, a town of Germany, in the circle of Upper Saxon, and territory of Newfriend; 7 miles N.W. of Weyda.

BURCUS, in Ancient Geography, a river of Afiaitic Sarmatia, on the banks of which was built the city of Cucunda, according to Ptolemy.

BURDA, in Geography, a river of Hindostan, which runs into the Godavery, 60 miles E. of Nernmul. Burda,
BURDA, in some Middle Age Writers, denotes a garment made of ruffles.

BURDACK, an Egyptian vessel, which sleep usually drink out of at Cairo. They are made of a peculiar sort of earth, which is supposed to cool the water, and are always fit out to the north, to keep the cooler, and covered with a strainer, to prevent any thing falling into the water; they are of so porous a structure, that the water put into them will get through them in a few days.

BURDAH, in Geography, a town of Africa, near the river Gambia, in the kingdom of Temani.

BURDALO, a river of Spain, in Estremadura de Leon, which rives in the vicinity of Truxillo, and discharges itself into the Guadiana.

BURDEGALA, or BURDEGA, in Ancient Geography, now Bourdeaux, a trading port-town of Gaul, in the second Aquitania, the capital of the Bituriges Vivisci, seated on the Garonna. Saba is the most ancient author who mentions it, and by his description he intimates, that the sea-water formed a marsh in its vicinity. The poet Ausonius leads us to conclude, that the Druids had a school in this city; it was the place of his nativity, and he had been a professor in its school. He has given a poetical description of this city, See Bourdeaux.

BURDEN properly signifies a heavy weight or load. Ringelberg recommends the bearing burdens as the best sort of excercice; especially to strengthen men of study. To this end, he had a gown lined with plates of lead, which he could just lift with both hands. This load he bore six or seven days together, either increasing or diminishing it as he found occasion; by which means he could both write and excercise at the same time.

Burden also denotes a fixed quantity of certain commodities. A burden of gad-fool, is two score, or 120 pounds.

Burden, or Burthen, the weight of a ship when not overloaded to go to sea, and is usually expressed in tons, and sometimes in theft. The common method employed by ship-builders to find the tonnage of a ship, is to multiply the length of the keel by the extreme breadth, and the product by half the extreme breadth; then, this half being divided by 94, the quotient is the burden in tons. If the ship is afloat, and the tonnage required, the length of the keel cannot be ascertained; in this case, therefore, ship-builders use the following rule. From the extreme length subtract three-fifths of the extreme breadth, the remainder is the assumed length of the keel. Now the length of the keel thus found being multiplied by the extreme breadth, and that product by half the breadth, which last product being divided by 94, will give the tonnage for merchants' ships; but for ships of war the divisor is 100.

According to an act as settled by the 13 Geo. III. chap. lxxiv. the burden or tonnage of a ship is to be found as follows. Measure the length from the after part of the main stern-post along the rabbet of the keel to a line perpendicular thereto, from the fore part of the main item under the bowprit; from which subtract three-fifths of the extreme breadth, exclusive of any doubling, and the remainder is to be esteemed the length of the keel for ascertaining the tonnage; which, being multiplied by the breadth and half-breadth, and divided by 94, as formerly, will give the tonnage. When it becomes necessary to ascertain the burden of a ship which is afloat, the following method is to be observed. Measure the nearest distance, at the load water mark, between the after part of the stern-post, and a plum line suspended from the stern; which, deducted from the length measured from the point on the stern where the plum-line was suspended to a point perpendicular above the load water mark at the fore part of the stern, the remainder is the extreme length of the ship; from which subtract two-thirds of the extreme breadth measured from outside to outside of the plank, exclusive of doubling or feathering, and also one-fourth of the depth of the load water line abutt, and the remainder will be the length of the keel for tonnage; which, being multiplied by the breadth, and by the half-breadth, and the product divided by 94, will give the burden in tons.

In Dr. Mackay's treatise on "Navigation," a rule, adapted to logarithms, is given to find the tonnage of a ship; and in his treatise on "the description and use of the fishing rules," is contained the method of ascertaining the tonnage by that means.

From the sighted reflection it will be evident the above-mentioned rules, although functioned by practice and by the legislature, cannot give the true burden of a ship. Neither is the depth taken into the account; and although the length, extreme breadth and depth are taken into consideration, yet the form of the bottom, and the dimensions of the ship at various other parts are neglected; and hence, full built, deep ships will carry considerably more than according to the rule; and sharp built ships will be greatly over-rated. Since, therefore, the several duties on shipping incautely with the tonnage, ships are generally made deeper than their other dimensions require, which has the tendency of making them crank. For a more accurate method of ascertaining the burthen of a ship, see the article Tons.

Burden, ships of, denote those of a larger and heavier load, carrying 500 tons, or upwards.

Burden, or Burthen, from Burden, Fr. a drone. Hence, in Moysa, a bafe of only one note, a pedal, and the drone of a bag-pipe, is called a drone-bafe. And hence, that part of a song which is repeated at the end of every verse or stanza, is called the burden of the song.

"At every close the made, th' attending throng
Replied, and bore the burden of the song." Dryden

Pope writes burthen:

"Sacred to ridicule, his whole life long,
And the sad burden of some merry long."

Burden also denotes the pipe, or string by which such a found is given.

Matth. Paris will have the name burden to have been originally given this pipe, on account of its resemblance to a pilgrim's staff, generally called also burde.

BURDO, in Physiography, a mongrel beast of burden, produced by a horse and a cow, by which it is distinguished from the mule, which is that produced of a male ass by a mare.

Burdo, or Burdon, in Middle Age Writers, denotes a pilgrim's long staff, as doing the office on that occasion of a mule, or other vehicle.

BURDOA, or Burdova, in Ancient Geography, a town of Hispania, in Lusitania. Ptolemy.

BURDOCK, in Botany. See Arctium Lappa, and Xanthium Strumarium.

BURDONA, an appellation sometimes given to pilgrims, or those who went out of devotion to the holy land. The word is formed from Burdo, an appellation given to the staff wherewith they travelled.

BURDUIGNO, in Geography, a small town of the Morea, seated on the Vasilipotamo, between the mouth of this river and the town of Mitira.

BURDWAN, or Burwah, a town of Hindostan, in the country of Bengal, 50 miles N. W. of Calcutta. N. lat. 23° 10'. E. long 84° 30'.

BURE, William-Francis de, in Biography, a bookseller of Paris, eminently skilled in bibliography, published
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BUREBA, in Geography, a country of Spain, in Old Castile, which was formerly a part of Navarre: its principal town is Biviana.

BURDIGAT, El, a town of Egypt, on the west side of the Nile, 10 miles W. of Memphis.

BUREIL, a town of Atlantic Turkey, in the province of Caramania: 10 miles S. of Yerrup.

BURELLE, in Heraldry, is a term used by the French heralds for enframbling bary; as the same as the English call barrier.

BURELLE, or Civitate Borelle, in Geography, a small episcopal town of Naples, in the province of Abruzzo Citra, on the east side of the river Sangro. N. lat. 41° 56'. E. long. 15° 5'.

BUREN, a town of Germany, in the circle of Westphalia, and bishopric of Paderborn, seated on the Alme; 13 miles S. W. of Paderborn. N. lat. 51° 35'. E. long. 8° 25'.

Buren, a town of the United Provinces, in the duchy of Guelders, and capital of a fine corn country, belonging, before the late revolution, to the house of Orange, to which it belonged in 1551, by the marriage of prince William I. with Anne heirels to Maximilian count of Egmond; 5 leagues N. of Dois-le-Duc, and 6 S. E. of Utrecht. Without the town is a good castle, walled and surrounded by a double moat. N. lat. 52°. E. long. 5° 22'.

BUREN, a town of Switzerland, in that district of the canton of Berne, called the Upper Argow, seated on the east side of the Aar, over which it has a bridge; 9 miles S. W. of Soleure. N. lat. 47° 0'. E. long. 7° 11'.

BURETRAS, the name of a village of Sweden, in West Bohemia.

BURETTE, PIERRE-JEAN, in Biography, born at Paris in 1665, was the son of a Leper, who, not being very prosperous in his practice, had recourse for his support to music, which he had learned of his mother, an excellent performer on the harp and harpsichord. He first performed, professionally, at Lyons, and afterwards went to Paris and played on the harp to Louis XIV., who was much pleased with his performance.

His son, Peter-Jean, was so sickly and feeble during infancy, that he passed almost his whole youth in amusing himself on the pipe and in the study of music; but he had so strong a passion for this instrument that he had scarcely arrived at his ninth year when he was heard at court, accompanied by his father on the harp. Two years after, the king heard him again, when he performed a duct with his father on the harp; and at eleven years of age, he assisted him in giving lessons to his scholars.

It is not generally known that the learned academician, Burette, who had written so copiously on the subject of ancient music, was so well acquainted with the modern; which must have rendered his opinions more valid, and given weight to his reasoning on musical subjects in general, which a mere man of letters seldom obtains. His taste for music, however, did not extinguish his passion for other sciences. He taught himself Latin and Greek with little assistance from others; and the fluency of those languages inclin'd him to medical inquiries. At eighteen years old he attended for the first time the public schools, went through a course of philosophy, and took lessons in the schools of medicine. And even during this time he learned Hebrew, Syriac, Arabic, Italian, Spanish, German, and English, sufficiently to understand them in books.

He was at length admitted of the faculty at Paris, and professed with reputation during thirty years, having for his disciples almost all his brethren who have since enjoyed the highest reputation in that capital.

In 1705, he was received into the Academie des Belles Lettres; and in 1706, he had a considerable share in the publication of the "Journal des Savans," at which he laboured more than thirty years. In 1718, he had an appointment in the Bibliothèque du Roi.

The public are obliged to the abbé Fréquier for the learned dissertation which M. Burette produced on the music of the ancients. This learned abbé, supposing that the Greeks applied the same sense to the word harmony, as is given to it by the moderns, and that, consequently, they knew counterpoint, or music in parts, Burette proved that he was mistaken, and that the ancients meant no more by the term harmony, than we do by proportion. He demonstrated that the Greeks professed no other simultaneous consonances than unisons and octaves.

This learned and indefatigable inquirer after the music of the ancient Greeks, was seized, in 1745, with a paralytic affection, and after languishing during the whole year 1746, he died in 1747, at 82. His library, consisting of 15,000 volumes, was composed of the most curious and well-chosen books that could be procured in all languages.

He has supplied the memoirs of the Acad. des Inscriptions et Belles Lettres with dissertations on the dancing of the ancients, on play or gaming, on single combat, and on horseracing. He enriched those memoirs with a translation of Plutarch's treatise on music, with notes and remarks, which are dispersed through many volumes of the memoirs of that learned society. And this writer must be allowed, on every subject concerning ancient music, the merit of great diligence and learning; but he does not seem always to have been possessed of an equal share of tact and ability, or with courage sufficient to confide himself unable to explain inexplicable passages in his author. He never fails a difficulty; he explains all. Hence, amidst great erudition, and knowledge of antiquity, there are a thousand unintelligible explanations in his notes upon Plutarch. "En croyant," said Fontenelle, "j'ai toujours taché de m'entendre."—An admirable rule! which every writer ought to adopt.

Thus much is said, not with a view to depreciate the merit of M. Burette, to whom almost all late writers on music have had great obligations, and whose labours have been of singular service to ourselves, among the rest; but to shew how few authors are to be always followed implicitly, or read without precaution. But though we have frequently differed from him, we have adopted his opinion when we thought it well founded; and there has been no obsequious writer on ancient music, who has not frequently availed himself of his labours.

BURFORD, in Geography, an ancient town of Oxfordshire, in England, is supposed by some writers to be one of the oldest towns of the Mercian kingdom. It is remarkable in the page of history, and in the annals of sporting. Near this town was the scene of that decisive engagement between the West Saxons and Mercians, which delivered the former from the tyranny of the latter. In the year 752, a pitched battle was fought here between Guthred, king of Wessex, and Ethelbald, king of Mercia, "two princes of high spirit and ambitious schemes." The conflict was violent, and the latter monarch was compelled to fly for safety; yet, during the engagement, the banner of Mercia, a golden dragon,
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was feized and torn by Edelhun. The scene of this conflict
is still pointed out by the name of a field a little westward of
the town called Battle-edge; and the memory of the event is
preferred by an annual procession on the eve of Midsummer
day. At the conclusion of the seventeenth century, an ecclesiasti-
cal synod was held here to determine the time when Easter
should be held. It was then decreed that Aldhelm, abbot of
Malmesbury, should announce to the British church a fixed and
proper period for the celebration of this festival in future.

The horse-races of Burford are frequent, and much fre-
quently by the students from Oxford, and the neighbouring
gentry, &c. Here are manufactories for duffels and for
rugs. The town is seated in a low, narrow valley on the
banks of the river Windrush. The high grounds are mostly
appropriated to corn, in consequence of which, the markets at
this place and at Whitney are abundantly supplied with that
necessary article. The church is a spacious and interesting
pile of building; displaying some curious specimens of
ancient ecclesiastical architecture. Its western door is formed
with a semicircular arch, ornamented with birds' heads, &c.
and the south porch displays a highly decorated exterior.

Near this town is an ancient manor-house, which was a
religious foundation belonging to the keynsham in
Somersetshire. This belongs to John Leuthall, esq., a
descendant from the famous speaker to the long parliament.
Burford had a charter from Henry II. and is governed by
two bailiffs, burgesses, &c. It is distant 72 miles N. W.
from London, contains 396 houses, and 1516 inhabitants.

Here are a market on Saturdays, and two annual fairs. Plot's

BURFORD SADDLE. See SADDLE.

BURG. See Borg.

Burg, a bailiwick and castle of Germany, in the circle
of Upper Saxony, and county of Reins; 4 miles S. W. of
Schleitz. — Allo, a town in the circle of Lower Saxony, and
duchy of Magdeburg, seated on the Ilke, in which are
woollen manufactories; 14 miles N. E. of Magdeburg.—
Allo, a town of the United Netherlands, in the county of
Zutphen, seated on the Old Iffel, between Anholt and
Dertikem. N. lat. 51° 30'. E. long. 6° 12'.

Burg or Bork, a town of Germany, in the circle of
Weizelsau, and duchy of Berg, seated on the Wippe; 6
miles S. of Silingen.

Burg-Brunnheim, Mark, a town of Germany, in the circle
of Franconia, and principality of Culmbach; 14
miles N. N. W. of Aspach.

Burg-Langensfeld, a town of Germany, in the circle of
Bavaria, and principality of Neuburg, on the Nab; 15
miles N. of Reutn.

Burg-Scheidingen, an ancient fortified town, but now a
church-village of Germany, in the circle of Thuringen; 3
miles S. E. of Nebrn.

Burg-Schwalbach, a town of Germany, in the circle of
the Upper Rhine, and county of Nassau-Saarbruck, and in
a proprietor of the same name.

BURGH—upon the Rhine, a place lying at a small distance
west of Carlisle, in the county of Cumberland, and remark-
able for the monument erected there in honour of Edward I.,
who died there in 1307, on his return from a successful expe-
dition against the Scots.

BURGAGE, in Law, a tenure proper to boroughs
and towns, whereby the inhabitants hold their lands and ten-
ements of the king, or other lord, at a certain yearly rate.
This tenement is described by Glanvil (l. vii. c. 51.), and is
expressly said by Littleton (§ 162.) to be but tenure in
fogage. It is indeed only a kind of town fogage; as com-
mmon fogage, by which other lands are held, is usually of
a rural nature. A borough (see Borough) is usually dif-
tinguished from other towns by the right of sending
members to parliament; and where the right of election is by burgage
fogage, that alone is a proof of the antiquity of the borough.
Tenure in burgage, therefore, or burgage fogage, is where
houes, or lands which were formerly the feite of houes,
in an ancient borough, are held by some lord in common fogage,
by a certain established rent. The free fogage, in which
these tenements are held, seems to be plainly a remnant
of Saxon liberty; and this may account for the great variety
of customs, affecting many of these tenements so held in
ancient burgage; the principal and most remarkable of
which is that called Borough-English; which fee. There
are also other special customs in different burgage fogages;
as in some, that the wife shall be endowed of all her hus-
band's tenements (Litt. § 166.), and not of the third part
only, as at the common law; and in others, that a man
might dispose of his tenements by will (Litt. § 167.),
which in general was not permitted after the conquest, till the
reign of Henry VIII.; though in the Saxon times it was
allowable. A pregnant proof, says judge Blackstone (Com.
vol. ii. p. 84.), that these liberties of fogage tenure were
fragments of Saxon liberty.

Burgage is sometimes used to denote the rent, or quit-
rent paid to the chief lord for the houes and tenements in
a town or borough.

BURGAGE, see Bergase.

BURGAU, a town and castle in a margraviate of the
same name, in Austrian Swabia, seated on the river Mindel;
5 leagues N. of Augsburg.

BURGAU, a considerable village of Germany, in the circle
of Upper Saxony, and principality of Eilenau; 3 miles S.
of Lena.

BURGADUINE, the name given by the French arti-
cers to what we call mother of pearl. In their works,
they do not use the common name for this, but the
lining of the American beryne. Hence some call the mother
of pearl burgadune, and others the burgadine mother of
pearl.

BURGDORF, in Geography, a town of Swiffland, in
the canton of Berne, and chief place of a bailiwick, seated
on the river Emme; about a league from the town are
fri
gle of fountains and baths, which are said to be beneficial
in paralytic and nervous complaints; 8 miles N. E. of Berne,
and 12 S. S. E. of Soleure. N. lat. 47° 32'. E. long.
7° 46'.

BURGDORF, a town of Germany, in the circle of Lower
Saxony, and principality of Lunenburg-Zell, seated on the
Aue; it is walled and moated, and has a castle; 14 miles
E. N. E. of Hanover, and 9 S. of Zell.

BURGES-LES-BAINS, a town of France, in the de-
partment of the Allier, and chief place of a canton, in the
district
BURG, a district of Moulins. The town contains 2,452, and the canton 12,104 inhabitants; the territory includes 3,474,968 acres, and 13 communes.

BURG-MASTER of Greenland, in Ornithology. See Procellaria Glacialis. The same name is given by Rauw to the vagel gull, Larus maxima; it is also called Burgo- master, and Burgemeister. In Martin's Spitzb. Larus glaucus, the glaucous gull, is termed Burgemeister.

BURGIN, in Geography, a town of Egypt, on the west side of the Nile; 17 miles N. of Achmousan.

BURGEL, a town of Germany, in the circle of Upper Silesia, and margraviate of Meissen, seated on the Saal; 6 miles S. of Dornburg.

BURGEL, Bregel, or Mark-Burgel, a very ancient town of Germany, in the circle of Franconia, and principality of Coburg, seated on a high mountain near the river; 13 miles N. N. W. of Anspach.

BURGE, a small island near the south coast of Newfoundland; 23 leagues N. W. of Miquelon. N. lat. 47° 27'. W. long. 90° 20'.

BURGEN, in Botany, as the term is used by English gardners, is only another name for a gem or bud. The French botanists distinguish three phases of its growth, by three different names. At its first appearance in spring it is an eye, or a bud; about the full size it becomes a bud, buisson, which continues to increase during the autumn; and in the following spring it is a burgon, burgon.

BURGES, an inhabitant of a borough or a walled town, or one who possesses a tenement therein. In other countries, burgesses and citizens are confounded together; but with us they are distinguished. Stat. 5 R. II. c. 4. See Borough. The word is also applied to the magistrates of corporate towns.

Anciently, burgesses were held in great contempt, being reputed servile, base, and unfit for war; so that the gentry were not allowed to intermarry in their families, or fight with them; but in lieu thereof, were to appoint champions. A burgess's son was reputed of age when he could distinctly count money, measure cloth, &c. Spelm. Gloss. Glanvil. lb. vii. cap. 9.

BURGES, king's, Burgesi rigis, was he who, though residing in another's jurisdiction, was exempt therefrom, and only subject to the jurisdiction of the king, unless the lord also enjoyed royal jurisdiction.

In statute 5 Rich. II. c. 4. where the several classes of persons in the commonwealth are enumerated, we meet with count, baron, banneret, esquire of county, esquire of city, and burgess de burgh.

BURGESS is now ordinarily used for the representative of a borough town in parliament. See Borough.

Burgesses are supposed to represent the mercantile part or trading interest of the nation. They were formerly allowed, by a statute established in the reign of Edw. III. two shillings a day as wages. It is much to be regretted, that the members for boroughs bear above a quadruple proportion to those for counties. The Universities were, in general, not empowered to send burgesses to parliament; though once, in 12 Edw. I., when a parliament was summoned to consider of the king's right to Scotland, writs were issued, requiring the University of Oxford to send up four or five, and that of Cambridge two or three, of their most clever and learned lawyers for that purpose. But king James I. indulged them with the permanent privilege of sending constantly two of their own body, to serve for those students, who, though useful members of the community were neither concerned in the landed nor the trading interest; and to protect in the legislature the rights of the republic of letters. The right of election of burgesses depends on several local charters and customs, which have occasioned infinite disputes; though, by 2 Geo. II. c. 24, the right, for the future, shall be allowed according to the last determination of the house of commons concerning it; and by 3 Geo. III. c. 15, no freeman, except such as claim by birth, servitude, or marriage, shall be entitled to vote, unless he hath been admitted to his freedom twelve calendar months before. No person is eligible as a burgess, who hath not a clear estate of 300l. a year.

BURG, in German, a town of Germany, in the circle of the Upper Rhine, and principality of Upper Hesse; 14 miles S. E. of Mainburg.

BURGGRAVE, properly denotes the hereditary governor of a castle, or fortified town, chiefly in Germany. The word is compounded of burg, town, and graf, or grave, count.

The burggravies were originally the same with what we otherwise call castellane, or comes castellani; but their dignity was considerably advanced under Rudolph of Hapsburg; before this time they were ranked only as counts, and below the princes, but under him began to be exalted on a footing with princes. In some parts the dignity is much degenerated, especially in the Palatinate. There were formerly, according to Leti, fifteen families who enjoyed the title of burggravies, thirteen of which are now extinct. But this is differently represented by others. In Bohemia, the title burggrave is given to the chief officer, or to him that commands in quality of vicerey. In Prussia, the burggrave is one of the four chief officers of the province. In Guelders, the burggrave of Ninigen is president of the states of the province.

BURGROVE, JOHN PHILIP, M. D. in Biography, practiced physic several years, first at Darmstadt, and afterwards at Frankfort, and was author of several interesting works. 'Libitio omnis Fatis Hygiea, fum de Medicis Artis que ac Medicorum principibus Fatis,' Frank. 1701, 8vo.; in which he recounts the principal occurrences in the lives of the most celebrated physicians from the time of Hippocrates. This was again printed in the year 1706, with some alterations, under the title of 'Latriae Hominum Lethique Curiosis. De Exilientia Spirituum nervorum, corumque origine, Indole, Motu, Effectibus, &c. in Corpore Humano vivo,' &c. 1725, 4to. Dr. Goelicke wrote an answer to this under the title of 'Spiritus Animalis ex Foro Medico relegatus,' which produced, from our author, 'Spiritus Nervorum refutatus;' 1729; to this unmeaning controversy ended. His next work, which gave him much credit with his countrymen, was, 'De Aere, Aquis, et Locis Urbis Francocuriae Commentatio,' 1751. 8vo. He also published an edition of 'Hermes Conringsius, de Habitus Corporum Germanicorum Antiqui et Novi Causi,' with a commentary, 17, 7, 8vo. See Play. Dict. Hist.

BURGH, JAMES, an esteemed moral and political writer, was born in 1715, at Madley, in Herefordshire, and educated at the University of St. Andrews, with a view to the ministry, which was his father's profession; but, obliged to decline it on account of his health, he embarked in the linen business, and lost his whole property. This misfortune reduced him to the necessity of seeking a livelihood in London, where he was first employed in correcting the press and making indexes, and afterwards as usher in a school. Whilst he occupied this situation at Great Marlow, in the county of Bucks, he published without his name, in 1745, a pamphlet entitled, 'Britain's Remembrancer,' which passed through five editions. In 1747 he became master of an academy, which he removed from Stoke-Newington to New-
ingston-green, and which he supported with great reputation to himself and benefit to his scholars for 19 years. Independently of the attention which he devoted to his school, he composed and published several valuable works; of which the principal appeared in 1754, under the title of "The Dignity of Human Nature; or a Brief Account of the certain and established Means for attaining the true End of our Existence," 4to. reprinted in 2 vols. Svo. In 1762 he published "The Art of Speaking," containing rules for elocution, and lessons selected from ancient and modern writers, in which the emphatical words were distinguished by Italics. The first volume of his "Crito, or Effays on various Subjects, political, moral, and metaphysical," was published in 1766, and a second volume in 1767. In discussing the question concerning the origin of evil, he ascribes it to the machinations of powerful malignant spiritual beings, from which Christianity was designed to deliver us. In 1771 he gave up the charge of his school, and, though he suffered excruciating pain from the fluke, pursued with great vigour of mind the composition of a work, for which he had collected a mass of materials, entitled "Political Disquisitions." The first two volumes of this work, comprehending a vast variety of political subjects, appeared in 1774; and the third in 1775; and they were well received by those who were zealous in the cause of public reform. Whilst he was prosecuting this work, the painful disease, which he had long sustained with patience and resignation, terminated his life in 1775. Those who were in habits of intimate acquaintance and frequent intercourse with him, highly esteemed him for his piety and integrity, his social cheerful temper, and the benevolent ardour with which he devoted himself to the promotion of the public good. If he was fuggine in his projects, they were such as tended, according to his judgment, to the general improvement of society and of mankind: and though his compositions are distinguished more by the variety of their subjects than by accurate arrangement, and by energy rather than eloquence of language, many of them will be read with satisfaction and advantage. Besides the treatises already mentioned, he published, at different times, "Thoughts on Education," "An Hymn to the Creator of the World," "A Warning to Dram-drinkers," 18mo. written at the request of Dr. Stephen Hales, and Dr. Hatter, bishop of Norwich; "Directions, Prudential, Moral, Religious, and Scientific," printed for the use of his scholars, and since pirated by book-sellers, and sold under the title of "Youth's friendly Monitor;" and several periodical essays on the topics of the times, in the news-papers. Biol. Brit.

BUR, the name by which a town or city is called.

BURGH, the name by which a town or city is called.

BURGH-bay, from burg, castellum, and bote, compenstatio, is chiefly used for an aid or contribution levied for the repairing of a town or city.

BURGH-bye, or by, a fine imposed on the community of a town, or burg, for the breach of peace among them.

BURGH-mail, were yearly payments to the crown of Scotland, introduced by Malcolm III, and resembling the serfdom rents of burghs in England. See Mail.

BURGH-master, an officer in the tin mines, who directs and lays out the meers for the workmen, &c. otherwise denominated bailiff and master, which see.

BURGH and buoy, in Sea Language, lies on the coast of Holland, W. by S. from the beacon on Vooget land. On the Texel island are four churches, of which Burgh is the most northerly, except Oogh, which has no steeple.

BURGHAUN, or BURGHAUN, in Geography, a small town and citadel of Germany, in a bailiwick of the same name, in the circle of the Upper Rhine, and bishopric of Fulda, seated on the river Haun, and having two churches, one for the Lutherans, and another for the Catholics; 8 miles N. N. E. of Fulda.

BURGHERMSTERS, BURGERMSTERS, BURG;
esters, or BURGOMSTERS, chief magistrates in the cities of Germany, Holland, and Flanders; to whom belong the giving of orders for the government, administration of justice, policy, and finances of the place: though the authority and office are not everywhere alike; each city having its particular laws and statutes.

The word is formed from the two Flemish words, borger, burgef, or citizen; and mafter, master. Some express it in Latin by confultatus, others by senator. M. Bruce observes, that burhgermush, in Holland, answers to what is called alderman and sheriff in England; attorney at Compeigne; capitaulus at Tholoue; confultus at Languedoc, &c.

BURGHLINE, a borough-town, or court held for a town or borough. See Court and Mot.

The word is also written burgemuster, burghinotus, burgemaker, and burgemote, from burgh, episcopus; and man or geme, conventus.

The burghmote, by the laws of king Edgar, was to hold thrice in the year; by those of Henry I. twelve times. Burghmote is different from burghnotus, derived from berg, a hill, and moate, assembly, which denotes an assembly or court upon a hill, and is held in Derbyshire for deciding pleas and controversies among the miners.

BURGEONES, in Ancient Geography, the name of the people placed by Ptolemy in European Sarmaetia.

BURGLARY, in Law, or natural heafe-breaking, burgilatrocinium, called by our ancient law, and now in Scotland homofecen, an unlawful entering into another man's dwelling, wherein some person is, or into a church in the night-time; in order to commit some felony, or to kill some person, or to steal something thence, or do some other malicious act; whether the same be executed, or not. This crime has been always regarded as very heinous; partly on account of the terror which it occasions, and partly because it is a forcible invasion and disturbance of that right of habitation, which every individual might require even in a state of nature, and against which the laws of civil society have particularly guarded. Where they allow the posseffor to kill the aggressor, who attempts to break into a house in the night-time, they also protect and avenge him, in case the assailant should be too powerful. Such regard, indeed, has the law of England to the immunity of a man's house, that it flies its call, and will never suffer it to be violated with impunity; agreeing in this respect with the sentiments of ancient Rome, as expressed in the words of Tully (Pro Domino, 41) "quid enim facitius, quid omnibus reginum munus, quam domus seu convivium?" For this reason no outward doors can in general be broken open to execute any civil process; though, in criminal cases, the public safety supercedes the private. See ARREST. Hence, also, in part, arises the animation of the law upon careless-drifters, nuisancers, and incendiaries; and to this principle it must be affixed, that a man may assemble people together lawfully (at least if they do not ex-
cased (eleven) without danger of raising a riot, rout, or unlawful assembly, in order to protect and defend his house; which he is not permitted to do in any other case. 1 Hal. P. C. 54.

The definition of a burglar, as given by Sir Edward Coke (3 Inst. 61) is, "he that by night breaks and enters a man's house, with intent to commit a felony." In this definition, says Judge Blackstone (Comment. vol. iv. p. 22), there are four things to be considered; the time, the place, the winder, and the intent.

1. The time must be by night, and not by day; for in the day-time there is no burglary. In considering what is reckoned night, the day was ancienly accounted to begin at lun-rising and to end immediately upon sun-set: but the better opinion seems to be, that if there be daylight or twilight sufficient, begun or left, for discerning a man's face, it is no burglary. 3 Inst. 63. 1 Hal. P. C. 559. 2 Hawk. P. C. 101. But this does not extend to moonlight: for then many midnight burglaries would go unpunished; and besides, the malignity of the offence does not so properly arise from its being done in the dark, as at the dead of night; when the whole creation, except beams of prayer, is at rest; when sleep has disarmed the owner, and renders his house defenceless.

2. It is the place. It must be by the definition a manion-house; and, therefore, in order to account for the reason why breaking open a church is burglary, as it undoubtedly is, Sir Edward Coke quaintly observes, that it is "domus manionalis Dei." But it is not necessary that it should in all cases be a manion-house: for it may be committed by breaking the gates or walls of a town in the night. Accordingly Spelman defines burglary to be "Nocturna dumptio aliquius habitaculis, vel ecclesiis, etiam murorum portarumve burgi, ad feloniam perpetrandam." No distant barn, warehouse, or the like, has the fame privileges as a manion or dwelling-house, nor is regarded as a man's castle of defence: nor is a breaking open of houses in which no man resides, and which, therefore, for the time being are not manion-houses, attended with the same circumstances of midnight terror. A house, however, in which a man sometimes resides, and which the owner hath only left for a short season, animo revendenti, is the object of a burglary, though no one be in it at the time when the fact is committed. 1 Hal. P. C. 566. Foll. 77. If a barn, stable, or warehouse be parcel of the manion-house, and within the same common fence, though not under the same roof, or contiguous, a burglary may be committed in it; for the capital house protects and privileges all its branches and appurtenances, if within the curtilage or homestead. 1 Hal. P. C. 558. 1 Hawk. P. C. 104. A chamber in a college or an inn of court, where each inhabitant has a distinct property, is, to all other purposes as well as to this, the manion-house of the owner. 1 Hal. P. C. 556. A room, or lodging, in any private house, is also the manion for the time being of the lodger; if the owner doth not himself dwell in the house, or if he and the lodger enter by different outward doors. But, if the owner himself lies in the house, and hath only one outward door at which he and his lodger enter, such lodgers seem only to be innates, and all their apartments to be parcel of the one dwelling-house of the owner. 4 Eliz. 84. 1 Hal. P. C. 558. Thus also the house of a corporation, inhabited in separate apartments by the officers of the body corporate, is the manion-house of the corporation, and not of the respective officers. Fossor, 38. 39. If I hire a shop, parcel of another man's house, and work or trade in it, but never lie there, it is no dwelling-house, nor can burglary be committed in it; but if I or my servant, usually or often lodge in the shop at night, it then becomes a manion-house and the object of burglary. If the shop-keeper sleep in any part of the building, however distinct that part is from the shop, it may be alleged to be his manion-house; provided the owner does not sleep under the same roof also. Lecenh's Hawk. P. C. 1. c. 35. § 156. By 13 Geo. III. c. 38. burglary in the workshops of the plate glass manufacture, with intent to steal the stock or utensils, is declared to be a single felony, and punished with transportation for seven years. No burglary can be committed in a tent or booth, erected in a market or fair, though the owner may lodge in it. 1 Hawk. P. C. 104; but by Stat. 5 and 6 Ed. VI. c. 9, clergy is taken from this offence.

3. As to the manner of committing burglary; there must be both a breaking and an entry to complete this offence. But they need not be done at once: for, if a hole be broken one night, and the same breakers enter the next night through the same, they are burglars. 1 Hal. P. C. 551. There must in general be an actual breaking, so that it may be regarded as a substantial and forcible irruption. Such are breaking, or taking out the glass of, or otherwise opening, a window, and taking out goods; picking a lock, or opening it with a key; and lifting up the latch of a door, or looting any other falsehoods which the owner has provided. But if a person leaves his doors or windows of his house open, and a man enters by them, or with a hook or by any other means draws out some of the goods of the owner, it is no burglary; but if, having entered, he afterwards unlocks an inner or chamber door, or if he comes down a chimney, he is deemed a burglar. If a person enters by the open door of a house, and breaks open a chest and steals goods, this is no burglary by the common law, because the chest is no part of the house; though this is felony out of the clergy by Stat. 3 W. and M. c. 9; but if one break open a cup-board or counter, fixed to a house, it is burglary. 1 Hal. P. C. 552; 553. 1 Hawk. P. C. 103. So also to knock at the door, and upon its being open to run in with a felonious intent; or under pretence of taking lodgings, to fall upon the landlord and rob him; or to procure a confable to gain admittance, in order to search for traitors, and then to bind the confable and rob the house; are all deemed burglary actis, aggravated by the evasions that attend any of them. 1 Hawk. P. C. 102. And also, if a servant opens and enters his master's chamber-door with a felonious design; or if any other person lodging in the same house, or in a public inn, opens and enters another's door with such evil intent; it is burglary. Nay, if a servant complices with a robber, and lets him into the house by night, this is burglary in both (Stra. 881. 1 Hal. P. C. 553. 1 Hawk. P. C. 103); for the servant is doing an unlawful act, and the opportunity afforded him of doing it with greater ease rather aggravates than extenuates the guilt. As for the entry, any the least degree of it, with any part of the body, or with an instrument held in the hand, is sufficient; as, to step over the threshold, to put a hand or a hook in at a window to draw out goods, or a pistol to demand one's money, are all of them burglary entries. 1 Hal. P. C. 555. 1 Hawk. P. C. 103. Foll. 108. When several come with a design to commit burglary, and one does it while the rest watch near the house, the act of one is, by interpretation, the act of all of them. The entry may be before the breaking as well as after; for by Statute 12 Ann. c. 7, if a person enters into the dwelling house of another, without breaking in, either by day or by night, with intent to commit felony, or being in such house, shall commit any felony; and shall in the right
BURGO, near the town of Olina; 40 miles S.E. of Burgos.

BURGO SAND, lies on the ladboard side of the channel at the entrance into Liverpool, which fez. 

BURGOMASTER of Greenland, in Ornithology. See Bursg-mayor.

BURGOO, or Burgout, a fea-faring dish, made of whole oatmeal, or groats, boiled in water, till they burst; then mixed with butter. It is made in Scotland and in Wales, by mixing oatmeal and water, and boiling it into a moderate confluence. It is a cheap and strengthening diet.

BURGOES, in Geography, a large old city of Spain, the capital of Old Castile; and of a province of the same name, forming a kind of semicircle round a hill, on which is a castle, and extending itself along the plain to the small rapid river of Arlanzon, or Anm, over which it has a bridge, and along the bank of which is a handsome paved walk. It is the see of an archbishop, erected in 1554. This city is irregular, most of its streets being narrow and crooked, and its houses high. It has, however, many fine squares adorned with fountains and statues, public buildings, and noblemen's houses; and presents, at a distance, by its numerous tleples and edifices, and particularly the episcopal palace, situate without the town, a pleasing view. The cathedral is one of the most beautiful and bell preferred Gothic structures in Spain; and the chapel, belonging to the convent of the Augustines, is magnificent, and famous for its crucifix, to which extraordinary devotion is paid. Bega, one of its suburbs, has many convents and hospitals; and, among others, a very large one for pilgrims. One of the nunneries is confid to contain 150 nuns, most of them being of noble extraction; and the royal hospital is richly endowed. This city was built in the 9th or 10th century, on the ruins of the ancient Acua. Its situation, as it is surrounded by mountains, renders the air extremely cold for nine months in the year, and for the other three months very hot. The inhabitants of Burgos are said to speak the bell Castillian, or purest Spanish, of any in the kingdom. N. lat. 42° 14'; W. long. 3° 42'.

BURGSTADT, or Burgstadel, a small town of Germany, in the circle of Upper Saxony, and lordship of Schonberg, in which are some tuff-manufactures; 3 miles E. of Pena.

BURGSTALL, a town of Germany, in the archduchy of Austria, situated on the river Erphal; 12 miles S.E. of Ips.

BURGUETTA, or Burguetta, a town of Spain, in Navarre, situate in the valley of Ronceval, where the rear-guard of Charlemagne, on his return to Spain, was defeated by the Saracens, and Roland, his nephew, slain, in the year 778; 8 leagues E.N.E. of Pampeluna.

BURGUI, a town of Spain, in Navarre, situated on the Ebro.

BURGUILLER, a town of Spain in Andalusia, 3 leagues from Seville.

BURGUNDIAN Cross, in Heraldry. Knights of this order were instituted on St. Mary Magdalen's day, in 1535.
by Charles V., emperor of Germany and king of Spain, after he had restored Mulassus, king of Tunis, who was driven out of his kingdom by the noted pirate Barbarossa. The emperor being desirous to gain the love of all those who had valiantly professed themselves in that war, did, as a reward for their services, confer on them this honour of knighthood, on the day he made his public entrance into Tunis; having on the coat he wore in battle, embroidered with a Burgundian crest, to which was added a field bearing spears of fire out of a tent, with this inscription, BARBARIA, which badge was pendant from a gold collar.

BURGUNDIANS, BURGUNDIANS, in History, were a warlike and numerous people, who, upon the decline of the Roman empire, obtained a permanent seat and dominion in the provinces of Gaul. According to Ammianus Marcellinus (I. 28.), and Orosius (I. 7. c. 16.), they were originally descended from the Romans. The latter writer says, that Deutus, Nero, and his brother Tibrius, the adopted sons of Caesar Augustus, having subdued the interior parts of Germany, left several camps in the country, and part of their army to keep the neighbouring people in subjection: from the Roman soldiers, who were on this occasion left to guard the Roman camps, are descended the Burgundians. The castles and strong holds, built for the defence of a country, are called by the Germans "burgt"; and hence the Romans, who guarded them, and their descendants, were named "Burgundians." As they embraced the Catholic faith, the ecclesiastics, whose spiritual jurisdiction they acknowledged, have defended them as mild and tractable in their disposition; for in the countries where they settled, they treated the natives, not as strangers whom they had subdued, but as Christian brethren. Pliny the elder (I. iv. c. 15.) supposes them to be a German nation, descended from the Vandals, supposing to be the same people with the Vandals. Valerius (Rem. Franc. p. 48.) distinguishes the Burgundians of Germany from those of the same name, who dwelt more to the east, on the banks of the Danube. The Burgundians of Germany were sometimes in alliance, and sometimes at war, with the empire; and they are represented by contemporary writers as inferior in bravery to the other Germans, and as dwelling in castles and fortified places, whereas the other German nations fenced any fence besides their arms. See Socrat. Hist. Eclef. I. vii. c. 30. Most of them were mechanics, and, before they settled in Gaul, reftored in great numbers to that country, to earn a livelihood by their respective professions. As to their form of government, they were divided into several tribes, each of which had its respective chief or king, whose authority was so far from being hereditary, that it was not continued during life. If the events of the war acceded the courage or conduct of the king or general, called "Hendinos," he was immediately deposed; and the injustice of his subjects made him responsible for the fertility of the earth, for the regularity of the seasons, which seemed to fall more properly within the Laudatal department. The perfom of the priest, denominated "Sinitus," was sacred, and his dignity perpetual. The kings of the Burgundians did not think themselves degraded by serving in the Roman armies, by executing some of the chief offices of the empire, and by receiving, from the emperors, such dignities as they usually conferred upon their subjects. To the Burgundians is ascribed the first introduction into Gaul of legal duels, or duels ordered by the magistrates or judges, estabfihed in order to discover, from the event, the truth of contended facts. Gundebald is said to have been the first who estabfished by law this maxim, that the best champion is the best man, and ought to be believed; a maxim, indeed, which has often proved fatal to innocence. This unjust and fanguinary law was formally inflicted at Lyons, the 27th of June, A.D. 501, being the 5th of November, A.D. 275, the first of the emperor Titiocitus's reign, when, in conjunction with other barbarians, they crossed the Rhine, overran all Gaul, and made themselves masters of more than 70 cities in that country. But they were soon after defeated, and compelled to sue for peace, by Probus, the successor of Tacitus. In 287 they made another irruption into Gaul, together with the Alamanni; but were defeated by Maximian. See Alemanni. In the year 370, the 7th of Valentian I., an army of 80,000 Burgundians appeared on the banks of the Rhine, impatiently expecting the support and subsidies promised by Valentian; but after long and fruitless expectation, they were compelled to retire. In the year 407, they followed the Vandals, Sueves, and Alans, who had entered Gaul the last day of the preceding year, in order to take part in the spoils of the wealthy province; but they did not settle in that country till the year 413, when, as it is said, they obtained that part of Gaul which borders on the Rhine, or the present Alsace, and the remaining part of Germany Pruna, which were ceded to them by Honorius. Thus commenced the kingdom of the Burgundians in Gaul, under Gundichor their first king. They afterwards, viz. in 435, in conjunction with the Huns, the Huns, and the Franks, entered Belgic Gaul, committing dreadful ravages wherever they came; though, upon their first settling in Gaul, they had promised to afford the Romans, and ferve in their armies as subjects of the empire. Aetius, having defeated their army, reduced them to the necessity of suing for peace, which, however, was of no long continuance. About this time they embraced Chriftianity. Having continued on the banks of the Rhine till the year 438, they were removed by Aetius to the present duky of Savoy. During their residence here, they made themselves masters of several cities and places in Gaul; such as Lyons, Die, Vienne, Auvergne, &c. Before the year 490, the Burgundians were masters of the whole of Lugdunensis Prima, styled by Sidonius Germania Lugdunensis; and in the years 514 and 516, it appears, from the acts of the councils of Agde and Epana, that they were masters of above 26 cities; and, among others, of Lyons, Vienne, Béziers, and Embrun. In the year 490, Gundobald, or Gondebaud, conducted them into Italy, where they committed unparalleled ravages in Liguria. At this time the kingdom of the Burgundians was defined by the course of the rivers Saone and Rhone, and extended from the forest of Volfes to the Alps and the sea of Marcellus. Gondebaud, who died in 509, was succeeded by his son Sigismund, who dispatched an account of his accession to the emperor Anastasius at Constantinople, and acknowledged himself a subject of the empire. Sigismund, by the inhuman affalliation of his son Sigeric, though he has acquired the honours of a saint and martyr, greatly irritated the Oltrogoths and their king Theodore, and occasioned a war between the Franks and Burgundians. In a battle that took place A.D. 523, Sigismund was defeated and taken prisoner; and afterwards put to death, being buried alive in a deep well at Orleans; and the greater part of the country submitted to the Franks. The Burgundians, however, foon revolted, and proclaimed Gondemar, brother of Sigismund, their king, who, after a fierce conflict with the Franks, concluded a peace with them, on condition that they should restore to him all the countries which they had seized during the war. This peace lasted 8 years; but in 532 a war broke out between these two nations; and Childerich and Clotharius, entering the
the territories of the Burgundians, laid siege to Augstodunum, now Autumn, and obliged Gundemar to save himself by flight, and made themselves masters of his kingdom, which agreed to serve in their wars, and to pay them an annual tribute. But they continued, by agreement with their conquerors, to be governed by their own laws; till the reign of Louis-le-Debonnaire. Anc. Hist. vol. 17. Gibbon's Hist. Decl. and Fall of the Roman Empire, vol. iv. v. vi.

BURGUNDIANs, the denomination of a political party, which, together with the Armagnacs, divided the whole kingdom of France, about the commencement of the 15th century. See ARMAGNAC.

BURGUNDY, in Geography, derives its name from the Burgundians (see the preceding article), and, before the revolution, was a very considerable province of France; bounded on the east by Franche-Comté, on the south by Lyonnais, on the west by Bourbonnais and Nivernais, and on the north by Champagne. The government or province of Burgundy contained, besides the duchy of the same name, La Bresse, of which Le Bugey and Le Valromey form a part, and the county of Gex. Its extent from north to south is about 60 French leagues, and from west to east about 30 leagues. Burgundy is divided lengthways by a chain of mountains, extending from Dijon to Lyons; the eastern part of the province is an immense rich plain, which terminates in the mountains of Franche-Comté and Savoy, and which is watered by the Saone and other rivers that flow into it; the other part of the province is mountainous, and in many places dry and uncultivated. The principal rivers that water it, besides the Saone, are the Seine, the Armançon, the Yonne, the Serain, the Ouche, the Doue, which runs into the Saone near Verdun, the Arroux, the Bourbonnais, the Rhone, the Loire, and the Doubs. The mineral waters of this duchy are those of Apoigni near Seignelay, Premean near Nuits, Vevey, Sainte-Reine, and Bourbon-l'Antic. The province is fertile in various kinds of grain and fruit, tobacco, hemp, and flax; and among its wines, which are excellent, we may reckon those of Nuits, Beaune, Dijon, Vollenay, Pomard, Chassagne, Meursault, Volnay, Savigné, Mercé, Chambolle, Givi, Mercurey, Romanée, la Tache, Richemouls, Saint-Georges, and Chambertin. The mountains furnish excellent pastures for cattle and horeses. Its mines afford ores of various metals, particularly iron, different sorts of stones, marble, granite, and also coal, and ochre for dyeing. Its forests supply abundance of wood. It has also various manufactures of iron, wool, linen, and cotton. Its corn, wine, iron, wood, wool, and cattle, furnish the principal articles of commerce. The district of Bresse has subterraneous lakes; and the cave of Arcy, as well as the salt springs of Vezelay, are worthy of notice. The principal towns of Burgundy are Dijon, the capital, Beaune, Châtillon-sur-Seine, Auxerre, Autun, Chalon, Maçon, Bourg, Belley, Gex, &c. Since the revolution, Burgundy is distributed into the departments of the Yonne, Côte d'Or, the Saone and Loire, and the Ain.

The ancient kingdom of Burgundy formed three provinces in the 6th and 12th centuries. The first was that of Provence, which some authors have called the kingdom of Burgundy Cis-Jurana, in reference to mount Jura, now called Mont St. Clair. This was established in 855, in favour of Charles, third son of the emperor Lothario I., and comprehended Provence, properly so called; i.e. the country contained between the Durance, the Alps, the Mediterranean, and the Rhone, together with the duchy of Lyons. The second was formed in 888 on the other side of mount Jura, and called Burgundy Trans-Jurana. It comprehended little besides Switzerland, the Valais, the Genevieve and Chalais. The third kingdom was that of Arles, founded in 930, by the re-union of the kingdoms of Provence and Burgundy Trans-Jurana, in favour of Rudolphus II., who was before king of Burgundy Trans-Jurana only. The kings of France possessed themselves successively of this state: but the duchy of Burgundy, part of the late government of Burgundy, was never comprehended within the kingdom of Burgundy Cis-Jurana, or in that of Burgundy Trans-Jurana. It formed a distinct state, which continued subject to the kings of France. In the partition which took place in 843 between the sons of Louis-le-Debonnaire, Charles-le-Chauve had the part of the kingdom which was situated to the west of the Saone; and it was governed by dukes. But the power of these dukes gradually advanced to such a height, that one of them, named Rudolphus, in the time of Charles the Simple, was elected king of France. This duchy passed afterwards to Hugh the Great, duke of France, who proved a troublesome neighbour to Rudolph; and his son, Hugh Capet, feasted himself and family on the throne of France. His son and successor, Robert, having inherited Burgundy, gave it to Henry, his eldest son, who succeeding to the throne of France, affixed it in 1312 to Robert I., his younger son, who was the head of the first ducal race of Burgundy. This subsisted for 330 years, and became extinct in 1361 in the person of Philip II., who died without issue. King John, being son to a princess of Burgundy, in 1361 united this duchy with the crown, and in 1365 conferred it on his son Philip the Bold, in whom the second ducal line commenced. With his grand son Charles the Warlike, who left his life before Nancy in 1477, the second line terminated. Although he left a daughter, Mary, who married Maximilian, archduke of Austria, and John, prince of Burgundy, count of Nevers and Rethel, who did not die till 1491; Lewis XI. feigned upon the duchy, and united it to his crown, which has since retained it, notwithstanding the repeated claims and endeavours of the house of Austria to recover it. The various possessions of the dukedom of Burgundy rendered them the most considerable power in Europe; and in 1433 a decree of Bayle aigned to Philip the Good the first rank after kings, and named him the first duke of the Christian world. The dukedoms of Burgundy were thefirst ancient peers of France. At the king's coronation they bore the crown, and ground on him the sword.

BURGUNDY, circle of, a circle of the German empire, made a part of it in 1512 under the emperor Maximilian. It took its name from the province of Burgundy, now dismembered from the empire, and belonging to France, and has long since ceased to be reckoned among the circles of the empire. It was formerly under the directorship and sovereignty of the king of Spain, and comprehended not only Higher Burgundy, or Franche Comté, but likewise the 17 provinces of the Low Countries, which in the reign of Charles V. were received as members of the empire.

BURGUNDY Pitch, see Pitch.

BURGUNDY Pitch, platter of. See Plaster.

BURGWARD, Burgwardus, or Burgwardinum, in Middle Age Writers, the same with Dulware. The name is also extended to the town, and even the country about such a fortess. It is formed from the Teutonic burg, town, and wards, enclozy, keeping.

BURHANPOUR, in Geography, a city of Hindostan, and capital of the Candeif confucry, and at one period, of the Deccan also. It is a fine flourishing city, and is situated in the midle of a delightful country. This was one of the earliest conquests in the Deccan; and it is now in the hands of the Poonah, or western Mahrattas. About 20 miles to
the B. of it is a very strong fortres, named Aeer, or Afeagur. It has a considerable trade in fine cloths, white and painted, plain, and mixed with gold and silver, for veils, shawls, handkerchiefs, &c.; 135 miles N. of Aurungabad, and 625 S. of Delhi. N. lat. 21° 19'. E. long. 76° 22'.

Bihar, a town of Hindostan, in the county of Bengal; 12 miles S. of Moorshedabad, and 100 miles N. of Calcutta.

BURIAL, a river of Hindostan, which runs into the Jumna, 20 miles S. of Delhi.

BURIAL. The act of interring a deceased person.

Of the various modes of burial which have prevailed in the world, it was Cicero's opinion, (De Leg. ii. 22.) that inhumation was the oldest: and the records of history undoubtedly corroborate the notion. **Burning**, and including the remains in urns, were perhaps never found expedient, till national animosities had given rise to inhuman treatment of the dead.

The common custom of mankind, from the beginning of time to the present moment, has concurred in the propriety and decency of interment: it is a natural act inspired by humanity; a practice, which has been continually observed by enemies in time of war; and but rarely denied in any country, but to those who have violated either the laws of God or nature. The duty of sepulture, and instances of the discharge of it, constantly occur in Scripture. David paffes high encomiums on the men of Jabez-Gilead who reftored the bones of their king and prince from the enemys walls, and committed them to their family vault. (2 Sam. ii. 5.) It is part of the office of Tobit that he went about burying his murdered countrymen, at the hazard of his life. And Jeremiah threatens it as the greatest of punishments, that the wicked should be deprived of burial, and left on a dunghill: (Jer. viii. 2.) or as it is emphatically expressed, buried with the burial of an afa. Herodotus tells us, (Euterpe. xc.) that in Egypt, if either a native or a foreigner was found either destroyed by a crocodile, or drowned in the water, the city near which the body was discovered was obliged to embalm it, and pay it every respectful attention, and afterwards deposit it in some consecrated place. Iheus brings it as a proof that Clean was not the son of Aphilyphus, because he neither buried him, nor performed his funeral exequies. (Orat. de Hereditate Aphilyphi.) A law of Athens compelled the burial of a dead body found by accident, and pronounced the refuser impious. Servius on Virgil (AEn. vi. 176. f.) says, writers on moral duties place the duty of interring the dead among the first. It was profession for a priest to look on a dead body, but the height of impolicy to leave it unburied. The Athenians carried their attention to the dead beyond the grave; and Solon, by an express law, forbade any reflections on their character. On this law Plutarch thus comments: "Piety should induce us to reverence the dead; justice should prevent us from meddling with the affairs of those who no longer exist; and policy should lead us to prevent the perpetuity of enmity." (Solon. p. 89. E.) Demodithes extends the caution still further: not even any provocation from survivors of the family should urge us to any reflections on the dead; (In Leptomein, p. 298.) and every citizen was at liberty to bring an action against the abusive party. (Ulpian in loc. Demodithes in Bacotos. p. 588. Susdas.) The Cynics, however, seem to have regarded burial with contempt; and Plato (H. N. i. vii.) ranks concern about it amongst the weaknesses pecu- liar to man.

Among the earliest inhabitants of the world, neither the mode nor the appropriate place of burial can now be ascertained. Nor does it seem that the latter, even in the middle periods of Jewish history, was always particularly determined. For we find they had graves and sepulchres both in the town and country; in fields, upon the highways, in gardens, in their own houses, and upon mountains; though the general custom seems to have been, that the dead should be interred without the city. They appear in many cases also to have thought it a misfortune not to be buried with their fathers. In Genesis (xxv. 5.) when the affliction of Abraham's poverty was foretold, it was promised that he should go to his fathers in peace, and be buried in a good old age. He afterwards pleads most pathetically with the sons of Heth (xxi. 3.—13) for the purchase of a burial place for Sarah. It was in the cave of the field of Machpelah; and it afterwards received the bodies of himself, of Isaac, and of Jacob.

Joseph's body, having been embalmed, and put into a coffin, in Egypt, was brought away by the Israelites when they quitted the country, and buried in a plot of ground in Shechem, which Jacob had purchased of the sons of Hamor (Gen. i. 25. Jofh. xxiv. 32.) Moses was secretly buried in a valley in the land of Moab, (Deut. xxxiv. 6.) and no man knew of his sepulture. Eleazar, the son of Aaron, was buried on a hill. (Jos. xxiv. 33.) Job, in his own house in the wilderness. (1 Kings ii. 38.) Manasseh and Amon, in the garden of Uzza; (2 Kings xxvii. 18. 26.) and Rehoboam, Aafa, Jehosaphat, Joram, Amaziah, Azariah, Jotham and Ahaz, in the city of David, with their fathers. "Job's, too, was buried in the city of David," but not in the sepulchres of the kings. (2 Chron. xxvii.)

From the profane writers of antiquity we learn the practice among other nations; and not only from their authority, but from daily observation, we find the high raised tumulus continued a mark of respect amongst the living, and a signal honour amongst the dead in every age of which we have any record. Barrows are the most ancient sepulchral monuments in the world: and their contents are as various as the different people that occupied the globe, or the different circumstances by which they were distinguished. The pyramids of Egypt are but barrows of a more solid material: and the church-yard hillock of the present day is but a relic of their universal prevalence. Homer is very particular in describing the barrow of Patroclus. It was first marked out with a circle; the foundations were then laid round the very spot where the funeral pile was still uncooled, and the earth thrown up over them.

**Tumulus** de signa, Similla. ii. p. 172. c. 1. *Amphi* turris* in* voce in* *to* turris ecceust. *Xystetum* de* to* signa, *tumulus* xwv. *Il. i. 255—257.*

The remains of the body were collected in a golden urn, but (which is singular) were not lodged beneath the barrow.

Among the distinguished barrows of Greece may be ranked that of Egyptus in Arcadia, which Paunianis describes as not very large, and surrounded by a margin of stone: *tac* xwv* m* megas* koiv* kreti* in* kou* *stir* *kremaken* (Arcad. c. 16.), and which Homer admired (Il. B. 603.), as not having seen a finer. That of Icarus was a small one, on a headland where he was cast away: (Paunian. Bacot. c. 11.) and that of Achilles in a similar situation. (Odyssey. Ω. 36.) See Barrow.

With the Egyptians, and the ancient Greeks, (see Plato, Minos prope hui.) perfons were occasionally buried; as we have already mentioned in the case of Job, in their own houses: while in other inclusions hills and rocks were not only receptacles for the ancient inhabitants of Greece, Sicily and Afa, but of the Persians, and, to this day, of the Chinese. The general practice of burial, however, among the ancient Persians, is thus related by Herodotus, (Clo. cxx.)

**-I will**
"I will not affirm it to be true, that these never are interred till some bird or dog has discovered a propensity to prey on them. This, however, is unquestionably certain of the Magi, who publicly observe this custom. The Persians first clove the dead body in wax, and afterwards place it in the ground." The custom to which Herodotus here particularly alludes as the exclusive privilege of the Magi, was afterwards universally adopted: and, in part, still continues. The place of burial of the Chaldeans, at the distance of half a league from Ispahan, is a round tower made of free stone; it is 75 feet high, and 90 in diameter, without gate, or any kind of entrance; they ascend it by a ladder. In the midst of the tower is a kind of trench, into which the bones are thrown. The bodies are ranged along the wall in their proper cloaths, upon a small couch, with bottles of wine, and victuals. The ravens which fill the cemetery, devour them. (Chardin's Travels.) An exact model of this curious tower is preserved in the British Museum.

Among the Egyptians, the body having been embalmed by perfons legally appointed to the exercise of the proffession, was returned to the relations, who enclosed it in a cale of wood made to resemble an human figure, and placed it against the wall in the repository of their dead. (Herod. Enterpe. lxxxvii.)

The custom of burning the dead, to which we have already alluded, is, however, of higher antiquity than we may at first suppose. Saul was burnt at Jabesh, and his bones afterwards buried; and Ais was burnt in the bed which he had made for himself, filled with savourous odours, and divers kinds of spices; but the practice existed, we are assured, neither in Persia nor Egypt: the Persians thought it profane to feed a divinity with human carcase; and the Egyptians abhorred it on another account, because it was fully persuaded that fire was a voracious animal, which devoured whatever it could seize; and when saturated, finally expelled with what it had consumed. The Egyptians also held it unlawful to expose the bodies of the dead to animals; for which reason they embalmed them, fearing left after interment, they might become the prey of worms. (Herod. Thalia. xvi.) In Persia, too, at the time Herodotus wrote, the custom of burying alive was common; and he told that Amestris, the wife of Xerxes, when the was of an advanced age, commanded fourteen Persian children of illusious birth to be interred alive in honour of the deity whom they supposed to exist under the earth. (Polymnia, cxiv.)

Of the ancient Ethiopian practice we have a more minute description, related on the tradition of Cambyses' spies. "After all the moisture is extracted from the body, by the Egyptian, or some other procésse, they cover it totally with a kind of platter, which they decorate with various colours, and make it convey as near a resemblance as may be of the person of the deceased. They then inclole it in a hollow pillar of crystal, which is dug up in great abundance, and of a kind that is easily worked. The deceased is very conspicuous through the crystal, having no disagreeable smell, nor any thing else that is offensive. This coffin the nearest relations keep for a twelevenmonth in their houses, offering before it different kinds of viéntimes, and the first-fruits of their lands. These are afterwards removed, and let up round the city."

The funeral ceremonial attended the Scythian kings were still more singular. They were embalmed, and afterwards transported through the different provinces of their kingdom, till they were at last brought to the Gerihi, in the remotest part of Scythia. Here the corpse was placed upon a couch, (round which, at different distances, were fixed daggers; and upon the whole, pieces of wood covered with branches of willow) in a trench, nigh the spot where the Dorythenes begins to be navigable. In some other parts of this trench one of the conduits of the deceased, who had been previously strangled, together with his baker, cook, groom, most confidential servants, Levites, and choice effeets, were buried: and a mound as high as possible raised above the whole. (Herod. Melpomen. cxvi.) With regard, however, to the Scythians in general, the practice was more simple. When any one died, the neighbours placed the body on a carriage, and carried it about to the different acquaintance of the deceased; these prepared some entertainment for those who accompanied the corpse; placing before the body the same as before the reft. Private perfons, after being thus carried about for the space of forty days, were buried. But the Scythians did not all of them observe the same customs with respect to their funerals: there were some who interposed the dead bodies from a tree, and in that state left them to putrefy. "Of what consequence," says Plutarch, "is it to Theodorus, whether he rots in the earth, or upon it? Such with the Scythians is the most honourable funeral." The custom is also mentioned by Silus Italicus:

"At gente in Scythica suffixa cadavera truncis, Leuta dies feculit, putri liciuntia tuba."

The African Nomades observed the same ceremonies with the Greeks, but the Nymamos buried their deceased in a fitting attitude; and were particularly careful, as any one approached his end, to prevent his expiring in a reclin'd posture. (Herod. Melpomen. cxv.)

From the anecdotes of burial which have already been detailed, it should seem, that both among the Jews and Heathens, the place of interment was usually without the city. Such, also, was the case with the Athenians, the Suyrians, the Sicymonians, the Cyprians, and the Syryumians. The examples of Numa and Servius Tullus prove, that the Romans deposited their dead without the city before the introduction of the twelve tables; and it was a special privilege granted by the senate to particular persons, that they should be buried within the walls; (Cic. de Leg. ii. 23.) and the Jews, at least in the latter days of their existence as a nation, as we learn from the instances of Lazarus, (John xi. 53.) the widow's son at Nain, (Luke vii. 13.) and the dead that were raised at the crucifixion, (Matt. xxvii. 53.) observed the same place of burial. The Lacedemonians, however, buried within it. It had been a notion universally prevalent, that the touch of a dead body conveyed pollution; and Lycurgus, the legislator of Sparta, was ambitious to remove the prejudice. He not only introduced the custom of burial within the city, but erected monuments near the temples, that the youth might be trained from their infancy to the view of such objects, nor fludder at the spectacle of death.

The ancient Greeks and Romans were strongly persuaded that their souls could not be admitted into the Elysian fields, till their bodies were committed to the earth: and if it happened that they never obtained the rites of burial, they were supposed to remain in a wandering state, excluded from the happy mansions, for the term of 100 years. For this reason it was considered as a duty incumbent upon all travellers who should meet with a dead body in their way, to call dust or mould upon it three times; and of these three handfuls, one, at first, was cast upon the head.

Of those who were allowed the rites of burial, some were distinguished by particular circumstances of disgrace attending their interment; perfons killed by lightning were buried apart by themselves, being thought odious to the gods; (see Plin. ii. 54.) those who wasted their patrimony, forfeited the
right of being buried in the sepulchres of their fathers; and those who were guilty of self-murder, were privately deposited in the ground, without the accustomed solemnities.

The Athenian law mentioned by Zeller, (vii. 10.) obliged them to place the body to the west. This was the original position of the Athenians, as Solon shewed in defence of his countrymen's claims to Samos; for on opening the graves in that isle, he proved that the Athenians in it were so buried in a regular manner; but the Megarean invaders at random, and just as it happened. Laertius (Solone) says, the Athenians, and the Iolkids on Thucydides, all the Greeks, lay buried toward the east; that is, as Kuhnus on Zeller, (loc. cit.) properly explains it, with their faces looking to the east, and their heads to the west. This practice among Chaldaeans has been supposed to have a reference to the general resurrection. The motive for it among the Heathens has not been ascribed.

The Athenian practice, however, with regard to those who died in the defence of their country, was at once patriotic and affectionate, that it cannot but deserve particular attention. It affords an elevated idea of that political people. About three days before the funeral, the bones of the slain were placed in a tent raised on purpose, so that every person might have an opportunity to frequent them, and pay the last tribute of a tear. All sorts of odoriferous herbs and flowers were strewn around the tent; and each man brought some in his hand, that he might consecrate them to the memory of his favourite friends. On the fourth day a coffin of cypress was sent from every tribe, to carry all the bones of their own members. After which went an empty covered hearse, in memory of those who could not be found. The procession was carried on with a peculiar decency of sorrow, while the numbers of inhabitants, both the strangers and citizens, assembled in the train of mourners. The parents of the deceased attended at the sepulchre to weep. No eye could refrain from tears; and the melancholy dirges which appeared in the faces of all alike, seemed but a true copy of the sentiments of all. The bones were accompanied in this manner to the public place of burial, situated in a pleasant spot without the city, called Ceramius, and committed to the ground. The monument erected to the value of the citizens was adorned with pillars, trophies, and inscriptions, as usual about the tombs of the most honourable persons, and the ceremony concluded with one speech in praise of them all; the main scope of which was, to animate the living with resolution, by commending the courage of the dead; to infuse a spirit of patriotism into the minds of their fellow citizens, by celebrating the principle of action which incites the valiant to battle. (Thucyd.)

The Ceramicus was the place where the slain in battle were always buried, except those who fell at Marathon, whose distinguished merit entitled them to a monument upon the spot.

Among the Romans, interment, we find, was preferred by Numa, the Etruscan family, and Caius Marius; but both Virgil and Ovid speak of burning as the practice before the foundation of Rome; the former (Ann. xi. 281.) in the infancy of Pallas; the latter (Fast. iv. 853.) in that of Remus. Pictorius says, Numa forbade it in his own cafe; and the law of the Twelve Tables forbade burning as well as burial within the city. Tacitus (Ann. xvi. 6.) says, Poppea's corpse was not burned according to the Roman Edict. It is a misapprehension of Capitolinus's words to suppose Antoninus prohibited it. Macrobius (vii. 7.) who lived under Theodosius the younger, speaks of it as left off in his time. (See Mr. Gough's Sepulchral Mon. of Great Britain.)

The drapery of the dead among the Romans was the toga, which was white in all cases except in that of the poor, who had it black. The magistrates and military men were wrapped in their purple robes of honour, or toga praetexta, or other precious garments of various colours. Perfun of rank and fortune were buried in their official habits. Mark Anthony gave his own robe to cover the body of Brutus. By the laws of the Twelve Tables crowns were allowed to be worn on these occasions by those who had merited them, and garlands and flowers were laid on the body as it passed. The funerals of great men were conducted at the public expense. But the bodies of the Roman slaves were thrown to rot in holes dug perpendicularly, called puticula. (Phil. Trans. N° 265.)

Having thus traced the conformity and occasional variation of practice among the more ancient nations in the article of sepulture, it may be worth while to deduce its history in England.

Both cremation and simple interment were rudical and ancient British fashions. The latter rite, however, was observed with the wild addition of whatever was of use in this life, under the notion that it would be wanted by the deceased in the world below; and in confirmation of this, arms and many singular things, of unknown use, are to this day discovered beneath the places of ancient sepulture. (Pennant's Tour in Wales, p. 581.) Barrows were their oldest tombs. Beneath some we find urns; beneath others skeletons; and in many instances, both. (Gough's Sep. Mon. i. iv.) The kilt-van or coffin, composed of rough flones etc., was an opportunity of laying the body to rest, as the sides, and ends, was another receptacle of the dead, as if lying in Britain; (Ibid. p. xvi.) these are frequent in Wales; but seldom found to contain skeletons, or remains of bodies in them. See Dr. Stukeley's Abury (p. 13.) of one found in a barrow at Kowllhrich; and another (p. 42.) similar, in Monkton field near Abury. Two that were found in Purbeck, on making a turnpike road to Corfe, had skeletons in them. Of this earlier kind and date were the rude flone cellars under barrows in Orkney, which contained entire bodies. The Tartarian barrows have absolute flone vaults under them. (Arch. vol. ii. 221.)

The next and last improvement of the flone coffin, was by forming it of a single flone with mallet and tool; and this Dr. Pegge ascribed to the Romans; for he apprehended that during the general prevalency of the customs of cremation and urn-burial among the Romans, they had not always recourse to the funeral pile, but that bodies were sometimes interred whole and in their natural state. (Sep. Mon. i. xx.) Influentes of Roman coffins of several pieces of flone are cited by Mr. Gough in the Sepulchral Monuments (vol. i. p. xxi.); and others, (p. xxvi.) to prove that the Romans used brick coffins, or sarcophagi, in their earlier periods. In the celebrated family vault of the freedmen of Angelus and Livian, discovered by the tide of the Appian way about a mile out of Rome, 1725; among a few marble sarcophagi were two of baked-earth, made to contain the body whole. The Romans in Britain buried their warriors near the via praetoria or military ways; and hence we may derive the frequent inscription of Siste Aspice Viator.

Woden enacted a law for burning the dead, which not only the Saxons and the Danes, but the remote Saxons, and all the Scandinavian nations regularly observed; and humated the ashes, with or without urns, as circumstances required. The Danes distinguished this, and the different funeral
funeral ceremonies three several epochs. (Worm. Mon. Dan. p. 40.) The first, which was the same with that in question, was called Rofold and Brumefide, or the age of burning. The second, was styled Hoogahl, and Hoifeide, or the age of tumuli or hillocks. The corpse at this period was placed entire, with all the ornaments which graced it during life. The bracelets, or arms, and even the horse of the departed hero were placed beneath the heap. Money, and all the rich property of the deceased, used to be buried with him, from the persuasion that the soul was immortal (Pomp. Mela. i. iii. c. 2.) and would stand in need of these things in the other life.

Among the northern nations, when piety was esteemed honourable, these illusory robbers directed that all their rich plunder should be deposited with their remains, (Bartolomius Antig. Dan. 43.) in order to stimulate their offspring to support themselves, and the glory of their name by deeds of arms. Hence it is we hear of the vault riches discovered in sepulchres, and of the frequent violation of the remains of the dead, in expectation of treasures, even for centuries after this custom had ceased. The third age was called Grifidenia-old, when the introduction of Christianity put a stop to the former customs.

From the remains of the writers who have been already cited, we learn that the custom of burning, among the several nations, ceased with paganism. It therefore fell first into disuse with the Britons; for it was for some time retained by the Saxons after their conquest of this kingdom; but was left off on their receiving the light of the gospel. The Danes retained the custom of urn-burial the last of all; for of all the northern nations who had any footing in these kingdoms, they were the last who embraced the doctrines of Christianity.

With regard to the barrows or tumuli, so frequent through the country, we have no good criterion by which a correct judgment may be made of the people to whom the different species belong; whether they are British, Roman, Saxon, or Danish. Some of them consist of heaps of naked stones, such as those in the isle of Arran; in many parts of Scotland; and in some parts of Cornwall. Others are composed of stones and earth, nicely covered with earth and sod. And they were sometimes of earth only. The size of the tumulus usually marked the quality of the person; and the earth and sods which were skimmed and paired from the surface round it, were lightly heaped up, and conferred on the deceased the last good wish, Sit thii terra levis. The generality of these were round; but others were conical, and some, as on the plains of Wiltshire and at Rollwright, of an oblong form. Finally, other places of ancient sepulture consisted only of a flat area, encompassed like the druidical circles, with upright stones; and such were those of Ubbo, and of king Harold in Sweden. (Succia Antiqua and Hodierne, tab. 515.)

The urns are also found placed in different manners, with the mouth resting downwards upon a flat stone, secured by another above; or with the mouth upwards, guarded in a like way. Very frequently the urns are discovered lodged in a square cell composed of flags; and sometimes more than one of these cells are found beneath a corn or tumulus. Mr. Pennant even met with no fewer than seventeen, near Dupplin in Perthshire, disposed in a regular form. The urns found in these cells are usually surrounded with the fragments of bones that had refitted the fire; for the friends of the deceased were particularly careful to collect every particle; which they placed, with the remains of the charcoal, about the urns, thinking the neglect of it the utmost impiety. (Pennant's Tour in Wales, loc. cit.)

The introduction of Christianity made a great alteration in the mode of burying the dead. Cremation ceased. The believing Romans betook themselves to the use of sarcophagi. The Romanized and converted Britons would naturally do the same. The Saxons as the successors of the Britons inclined from the very first to adopt their practices. And after the arrival of St. Aidan in 597., and the confecration of the nation, c fmins, as well as the mone of placing the body to the ear, universally took place. The oldest instance of a coffin that we know of in the Saxon times, was that of Ethelreda in 65. (Sep. Mon. l. xxvii.) and from this time downward, stone coffins have been continually discovered in every part of England. They may be regularly traced among us from the ninth century to the reign of Henry III.; and in some catacombs to that of Henry VIII. (Gent. Mag. 1759. p. 6.)

In the Norman times it was the custom to bury monks in the bare ground. Warin, the twelfth abbot of St. Albans, in 1195, ordered that they should be buried in stone coffins as more decent. (Matt. Paris, vit. ab. Albin. p. 95.)

Among the primitive Christians burying in cities was not allowed for the first 300 years; nor in churches for many ages after; the dead bodies being first deposited in the atrium or church-yard, and porches, and porticoes of the church. On the introduction of Christianity into this country, a regular form of disposing of the dead bodies took place. The altar in the first Christian basilica was placed in the call of it, under a window, to receive the first advantage of light, or in conformity with what is said of our Lord's ascension. The people for greater regularity in worship were taught to look towards the altar; and the dead for a similar reason, were buried with their faces the same way; except the priests who were ordered by the same authority to face the congregation. The reason alleged by Gregory the Great for burying in churches or in places adjoining to them, was that their relations and friends, remembering those whose sepulchres they beheld, might hereby be led to offer up prayers for them. Hence too that striking and solemn address which marked the epitaphs of the monastic ages: Oration pro animas nefertim pretiosiorum. Gregory's reason was afterwards transferred into the body of the canon law. To this superstitious and profane custom we may ascribe the original of church-yards. In the eighth century, the people began to be admitted into them. And princes, founders, and bishops, into the church. The practice, first introduced into the Roman church by Gregory the Great, was brought over here by Cuthbert, archbishop of Canterbury, about the year 750; and the practice of erecting vaults in chapels and under the altars was begun by Lanfranc, archbishop of Canterbury, when he had rebuilt the cathedral there, about 1075. From that time the matter seems to have been left to the discretion of the bishop.

It was remarked to the writer of the present article by a learned antiquary, who is now no more, that in ancient times in this, and perhaps in other countries, then Roman Catholic, interment was never practised on the north sides of the church. An opinion prevails that it was left for malefactors, for the unbaptized, for suicides, and for such as had incurred the greater cenfure of the church: and common observation will confirm the fact. at the present moment, that many more graves occur on the south than on the north sides of our churches. An extract from a letter of
of Mr. Samuel Denne (the gentleman above alluded to) affords a curious illustration of what has been alluded to. There is reason to believe that sixty years ago the north side of the church-yard of Wilmington (in Kent), might be unoccupied by corpses; and in 1753, on digging a grave to the north of John Chapman's head-stone, for the interment of Richard Harman of Stonehill, not a human bone was found, nor were there any marks of the ground's having been before moved. But in 1745 and 1746, when the hospital of the regiments of infantry, encamped upon Dartford heath, was in the manor house formerly belonging to the Langworth family, 35 soldiers who died in the hospital were buried in this spot.

"On opening the ground for the interment of one of them, midway between the wall of the church, and the fence of the church-yard, and about ten feet to the west of Mr. Fowke's tomb, John Woodmansey, the parish clerk, discovered an earthen pot containing money, of silver. The quantity was not known, nor does any attention seem to have been shown to the date of the pieces it contained. In consequence of this omission there is an ignorance of one circumstance that might nearly have affected, in which national commotion this treasure was concealed. It is, however, an obvious remark that the owner of it thought this quarter of the church-yard a very secure place, which adds weight to the opinion, I have already hinted, that the parishioners of that age had an insuperable objection to the burying of their relations and friends behind the church.

In regard to the rites of burial as they are practiced in the more distant quarters of the globe, our observations will be few. In Japan, Peru, Peru, Mexico, Tartary, Siam, and the Great Barrier's dominions, the dead are buried: and for people of superior consideration the fires are made with aromatic woods, gums, balsams, and oils. In China, we are told it was formerly the custom to bury slaves with emperors and princes, and sometimes also their concubines alive; but this cruel practice has given way, in modern times, to the more harmless one of burning representations of their domestics in tin foil, cut into the shape of human beings, and of placing their statues in wood or stone upon their graves; this seems to be the remain of the Scythian custom which has been already quoted from Herodotus. The last remains of a relation are interred with all the honours that the family can afford. (Barrow's Travels in China, p. 483.)

Among the Birman the deceased is burnt, unless he is a pauper, in which case he is either buried or cast into the river, as the ceremony of burning is very expensive. When the pile has been reduced to ashes, the bones are gathered and deposited in a grave. Symes's Ava. p. 314.

With every different tribe among the Hottentots, we are assured, the funeral ceremonies are alike. The deceased is thrust either naked, or with his pelisse on, into a hole in the earth, or subterraneous passage, where the body usually becomes the prey of some wild beasts; though the relations generally thrust brush-wood or bushes into the aperture of the hole or passage. (Sparrman's Voyage to the Cape of Good Hope, i. 358.) Another custom of a more horrid nature is likewise related on the same authority; Sparrman says, that it is a common practice, in case of the mother's death, to inter children at the breast alive. In New South Wales, the dead are burnt, afterwards deposited in the ground, and a funeral hill cock raised upon the ashes. (Hunters's Voyage to New South Wales, p. 64.) Lastly, we shall mention, the custom of burial among the South Sea Islands. At Otaheite the inhabitants bury none in the Morai, but those offered in sacrifice, or slain in battle, or the children of chiefs which have been quartered at the birth: An act of atrocious inhumanity too common. When a peron of eminence dies, even if a child of the inferior classes, he is prefered and not buried, unless he died of some contagious or offensive disease. They take out the viscera, and dry the body with cloth, anointing it within and without with the perfumed oil, and this is frequently repeated. The relations and friends, who are absent, perform their part of the funeral rites at their arrival, each female presenting a piece of cloth to the corpse; and they continue to dress and decorate the body as if alive, and to furnish it with provisions, supposing that the soul which roams round receives satisfaction from such marks of attention; they therefore not only take care of it, but repeat before it some of the tender scenes which happened during its life time. While any offensive smell remains they anoint the corpse with sweet-scented oil, and surround it with garlands of flowers. A dead chief is usually carried round the island to the different districts where he had property, or where his particular friends reside; and the funeral ceremony repeated: but after a tour of some months, he is brought to rest at the place of his usual residence. Some bodies are preferred like dried parchment; others, when the flesh is mouldered away, are burnt. (See the First missionaries' Voyage, p. 362, 364.)

By our common law, the granting of burial within the church is the exclusive privilege of the incumbent: except in cases where a burying place is preferred for as belonging to a manor-house. (Gibson. 459.) The churchwardens, by custom, have, however, a fee for every burial there, by reason the parish is at the expense of repairing the floor. (Watson's Clergyman's Law, cap. 39.)

By the statute, 30 Car. 2, fl. 1, c. 5, for the encouragement of the woollen manufactures, and prevention of the exportation of money for the importing of linen, it is enacted, that no corpse of any person shall be buried in any shirt, shift, sheet, or shroud, or any thing whatsoever made or mingled with flax, hemp, silk, hair, gold, or silver, or in any stuff or thing, other than what is made of sheep's wool only; on pain of 5l. And an affidavit shall be made for this purpose either to a magistrate or the officiating minister.

By the canons of the church (Can. 68.), no minister shall refuse or delay to bury any corpse that is brought to the church or church-yard (convenient warning thereof being given him before) except the party deceased were denounced excommunicated majoris excommunicationis, for some grievous and notorious crime, and no man able to testify of his repentance. There were anciently other caufes of refusal, particularly of heretics, against whom there was an efpccial provision in the canon law, that if they continued in their heresy they should not have christian burial: though no infulences of its enforcement occur subsequent to the period of the reformation. They who had not received the holy sacrament, at least at easter, were excluded from christian burial by a law of the Lateran council, which became afterwards a law of the English church. In like manner, perons killed in duels, tiats, and tournaments. But, at this day, these prohibitions are restrained to the excommunication, the unbaptized and suicides.

Burial, Christian, is often used to denote that which is performed in holy ground, and with the usual service or ceremonies of the church.

Burial is also used to denote the dues paid for interment, especially to the minister. The burial fee paid to the priest on opening the grave, was called by our Saxon ancellors foul-fot. Phil. Trans. N° 189.

Burial.
BURIAL of an as, of the sepulchre, an ignominious kind of burial out of holy ground, under the gallows, or in a highway, where several roads meet, and performed by public hangmen, or the like. Such is that of suicides, excommunicated persons, &c. sometimes denominated canine burial, or burial of a dog.

In the middle ages we also find mention of a peculiar kind of burial, called imploitation, practiced on the bodies of persons excommunicated. Du Cange.

BURIAL of the crucifix, Sepulchrum crucifixu, denoted a representation of the burial of Christ, anciently performed annually in churches on the day of the Pasch. Du Cange.

BURIALS, in computations of mortality, denote deaths, and stand opposed to births. In this sense, we have estimates of the burials in Brandenburg, in Prussia, Breslau, &c. Phil. Trans. No. 261, 224, and 176.

By a statute under king Charles II, a registrar is to be kept in every parish, of all persons buried within the same, or at the common burial-places thereof. Stat. 33 Car. II. c. 3. See Mortality.

Burial is also used for the inclosing of vegetable or mineral bodies in the ground, for divers purposes. Lord Bacon gives divers experiments of burying fruits, &c. for preservation and condensation, and to give nourishment to their respective trees. Works, tom. iii. p. 80.

Some commend burials in the earth, others in wheat, to seafon timber when first filled, and to make it of more durable use. Chemists sometimes bury their cements. The Chinese are said to bury their porcelain, to give it the greater beauty.

BURIANA, in Geography, a town of Italy, in the territory of Sicily, near the lake of Catania; 16 miles S. of Montieri.

BURIAS, or Burins, one of the Manillas or Philippine Islands, south of Luzon, about five miles in compass, inhabited by a few tributary Indians, who are comprised in the parish of Mabate, which is another larger island south of it, and not far distant from Ticao. N. lat. 12° 30'. E. long. 123° 0'.

BURICH. See Buderich.

Burich, is also a town of Germany, in the circle of Swabia, and margravate of Eaden-Durlach: five miles from Philipenburg.

BURIDAN, John, in Biography, a celebrated school-man of the 14th century, was a native of Bethune, and became professor in the university of Paris, and, as some say, regent in 1320. Aventine relates, that he was a disciple of Ockham, and being attached to the fét. of the Nominals, was obliged by the prevalence of that of the Realists to quit Paris, and to remove to Germany, where he founded the university of Vienna. He wrote "Commentaries on Aristotle's Logic, Ethics, and Metaphysics;" but he has been principally remarkable on account of the sophism or argument, commonly called "Buridan's Afs." This seems to have been introduced for the purpose of illustrating the doctrine of the sages, of yielding to impressions of the senses under which doubts are placed, and in which they are supposed to differ from man, who possess free-will, or an internal self-determining power. With this view, Buridan feigned an angry as, placed between two measures of oats, in such a manner, that each made exactly the same impression on his senses; in which case, for want of a power of choosing one rather than another, he must die of hunger. The term "Buridan's Afs," has been since proverbially used to denote difficulty and hesitation in determining between two objects. Gen. Dict.

BURIE, in Geography, a town of France, in the lower Charente, and chief place of a canton, in the district of Saintes; the place contains 1510, and the canton 10,258 inhabitants; the territory comprehends 127½ square leagues, and 11 communes.

BURIGNY, N. Levsey Le Broc, in Biography, an able man of letters, was born at Rhuna in 1691, and devoting himself to literary pursuits, acquired universal respect for the mildness and simplicity of his character. He was a member of the Parisian academy of belles lettres; and prolonged his life, with the exercise of his faculties, to his 94th year. His works are "A Treatise on the Authority of the P. 1720, 4 vols. 12mo. "History of Pagan Philosophy," 1724, 12mo., and 1754; "General History of Sicily," 1745, 2 vols. 4to.; "A Translation of Porphyry on Abstinence from Wine," 1747, 12mo.; "History of the Revolutions of Constantinople," 1750, 3 vols. 12mo.; "The Life of Gratius," 1754, 2 vols. 12mo.; "of Erafimus," 1757, 4 vols. 12mo.; "of Diokletian," 1761, 12mo.; "of Cardinal de Perse," 1768, 12mo.; all in French. His works, which in their general character are correct, but diffuse and turgid, are esteemed valuable collections of authentic facts. Nov. Dict. Hist.

BURIS, in Surgery, a name given by Avicenna, and some other old authors, to a febrile herna, caused by a hard abscess.

BURKA, in Geography, lies in the island of Angra, in the gulf of Ballora, and has a spacious harbour, with plenty of water. See Angra-Island.

BURKE, EDMUND, in Biography, was born in Dublin, on the first of January, 1750. His father was an attorney of the Protestant persuasion. The son was placed, during the earl part of his education, under the care of Abraham Shackleton, a Quaker schoolmaster of considerable merit, for whom his illustrious pupil entertained so large a share of affection through life, as never to omit paying him an annual visit of gratitude and respect, during a period of forty years. From Ballybore near Carlow, the residence of Shackleton, Mr. Burke was removed, at the age of sixteen, to Trinity College, Dublin. It is well known that he was more attentive to the infusions of his country school-master, from whom he early derived much of his miscellaneous knowledge, than to the more regular discipline of tuition, instilled by the university. He gained no prize; but he obtained his scholarship, during the second year of his residence, which proves him at least not to have been deficient in classical attainments; for of such are that honour and emolument the reward. He was contemporary with Goldsmith; but it does not appear that any friendship commenced between these two great men, till after the poem of the "Voyager" had established Goldsmith's reputation. There is no foundation whatever for the opinion, that Burke was bred a Catholic; and it seems now generally agreed, that he did not study his studies at St. Omer's. He was a candidate for the professorship of logic at Glasgow, but was too late in his application. On this disappointment, he repaired to London in 1749, after having taken his bachelor's degree, and entered himself a member of the Temple, with a view of being called to the bar.

At this time, the narrowness of his finances reduced him to the necessity of writing for the periodical papers; to which, he contributed essays on literary and political topics: but though the sphere in which he moved was not that of pleasure and fashion, he procured an introduction to the celebrated Mrs. Woffington, the actress, in whose society he passed many of his leisure hours. The severity with which he applied himself both to composition and study, having
considerably affected his health, Dr. Nugent was called in, who removed him from the inadequate accommodations of the Temple to the comforts of his own house. The attention of the family, and the particular kindness of Miss Nugent led to a matrimonial connection, in which Mr. Burke's expectations of domestic happiness were fully answered.

Mr. Burke's first acknowledged publication was, "A Vindication of natural Society; or A View of the Miferies and Evils arising to Mankind, from every Species of artificial Society," written in imitation of Lord Bolingbroke, for the purpose of attacking ironically that writer's philosophy, and exposing its injurious consequences. It did not meet with the reception which has since been thought to have been justified due to its merit as a composition.

He was not however discouraged by this failure from publishing his "Essay on the Sublime and Beautiful," which had been composed prior to the "Vindication," but referred for the advantage of making a first appearance under cover of a well-known and admired character. Both these works came out in 1756.

Though there was no name to the "Inquiry," the first edition was fold within the year, and a second published in 1757, with an "Introductory Discourse concerning Taste." The applause which attended this performance was not temporary, nor the connections consequent on it without permanent advantage. It procured him relief from his pecuniary embarrassments, and an easy introduction to the circles of the first rank and abilities. Among the first who sought his acquaintance, were Dr. Johnson and Sir Joshua Reynolds, to whom he has been supposed to have furnished the composition of the "Discourse to the Royal Academy." Much has been said on the subject; but there seems no reason for depriving the late illustrious president of the fame attached to an excellent writer, as well as an original and accomplished artist.

It was Mr. Burke's intention to have controverted the theories of Berkeley and Hume; he then thought of rivaling the historic labours of the latter in "Memoirs of his own Times," for this purpose, he had made himself master of English history, especially since the revolution; and the project ended in the establishment of Dodsley's "Annual Register," a very valuable work, of which he had the principal direction from 1758 to 1789.

In 1761, he accompanied "Single-speech Hamilton" to Ireland. This latter gentleman made one very excellent speech in the English, and one more in the Irish house of commons; and Mr. Burke has been said to have been the composer of both these speeches, but probably with as little reason as in the case of Sir Joshua's discourses. On Mr. Burke's return from Ireland, with a pension of £500 per annum, it was no longer necessary to write for periodical publications. He, however, contributed occasionally to the "Public Advertiser," where the excellence of his writings introduced him to the notice of the marquis of Rockingham, while Mrs. Woffington recommended him to the duke of Newcastle. He accordingly became private secretary to the marquis, at the instance of Mr. Fitzherbert, and member for Wendover on lord Verney's interest, and thus commenced his political career.

In February 1764, was founded that club, which afterwards became distinguished by the title of the Literary Club. Sir Joshua Reynolds was the first proposer, and Johnson acceded to the plan, in the hope of enlarging his circle, and recovering the opportunities for conversation, which he had lost by the dissolution of the meeting in Ivy-Lane. The original members of the literary club were, besides the two founders, Mr. Burke, Dr. Nugent, Mr. Beaufort, Mr. Langton, Mr. Chamier, sir John Hawkins, and Goldsmith. They met at the Turk's Head, in Gerard street, Soho, on every Monday evening through the year.

About the time of Mr. Burke's entrance on public life, men's minds were equally agitated by the measures of government respecting Mr. Wilkes, and the growing discontent in America. Of the two parties in opposition, that of Mr. Pitt having been professed on very precarious conditions, expecting court favourites and secret advisers, the duke of Newcastle, of whole party, on account of his age and infirmities, the marquis of Rockingham was considered as the leader, clasped with the terms on which a new administration was proposed. Mr. Burke now, with a facility to which he was too prone, seceded from his old friendship with Mr. Hamilton; but he is said, at the same time, to have received the pension procured through that gentleman's interest. From this time he became a professed party-man; a bondage to which he was in some measure compelled, by laying himself under pecuniary obligations to the marquis of Rockingham. The nature and extent of the favour he received have been variously represented; but it is certain, that a considerable part, if not the whole of the purchase money for his villa at Beaconsfield, of which he now took possession, was promised either as a loan or a gift by the marquis.

On his entrance into parliament, he took infinite pains to qualify himself for the discharge of his new duty. Among other sources of improvement, he disdained neither the writings of the fathers, the unaffectedness of the school divines, the perusal of precedents and records, nor the oratorical contents of the Robin-Hood society. His principal opponent at the Robin Hood was a baker, of whom Goldsmith said, that "Nature intended him to have presided in the court of chancery." He procured his seat in 1755, and his first speech was on the damp act. It attracted the notice, and obtained the applause of Mr. Pitt; Mr. Burke was principally consulted by the Rockingham administration on the affairs of America, and the middle course was adopted in conformity with his advice. The work of the party, and the levities of their policy, soon brought the ministry to a close; and its dissolution was hastened by Mr. Burke's project of a Canadian constitution, which lord Northington condemned in the most angry and contemptuous language. Mr. Pitt then made his own terms, as he thought, with the court. Mr. Burke had scarcely time to defend the conduct of his friends in print, before their successors resigned, and the parliament was dissolved. Mr. Burke was re-elected for Wendover, the Grafton ministry came into power, and Mr. Burke was the principal orator of opposition. He was adverse to the expulsion of Wilkes, and made an able speech to prove his intemperate eligibility, though he disliked the general character of the man. About this time, the letters of Junius began to appear; and on this occasion, the public have not lost sight of their propensity to attribute an able composition to Mr. Burke. There seems to be not the least foundation for supposing him to have been their author. He, however, gave his opinions and principles at considerable length, in his "Thoughts on the Cauces of the present Discontents." The leading features of this pamphlet were, a pointed invective against mean cabinets and secret influence, and a picture of what a house of commons ought to be. Those who seek in this work for proofs of political apostacy in later life, will not find the evidence so decisive as they expect. The remedies proposed were not those of democracy, but of a fellow-feeling to be established between the aristocracy and the people. As a proof that
the views of the author did not even then rise up to the expectations of the Whig-party in general, he was attacked by Mr. Macaulay, as well as by the friends of the court.

While Lord North was minister, the impetuousness of syllephant opposition seems to have carried Mr. Burke's vindication of freedom further than was compatible with that fondness for ancient establishments, which always existed in his mind, and became so much stronger in the latter part of life. He took a distinguished part in the debates on the liberty of the press. During the whole of the American war, he uniformly opposed the minister with zeal and ability, and defended the people with warmth and energy. His habits during this period were those of sobriety and literary industry, as well as of parliamentary vigilance and exertion.

It is to the credit of both parties that political differences made no breach between Burke and Johnson. The latter, on taking leave of his host at Beaconsfield, wished him all the success on his canvass at Bristol, which "could possibly be wished him by an honest man."

The famous Bristol election took place in 1754, when Burke and Cruger, an American merchant, turned out lord Clare and Mr. Brickdale, the former representatives. So little assistance did Mr. Burke derive from Mr. Cruger's eloquence on the hustings, that the confiant and only speech of the latter was, "I say ditto to Mr. Burke! I say ditto to Mr. Burke!"

It would exceed the limits of this article to detail Mr. Burke's controversy with Dean Tucker, or the part which he took on every great political question. It is necessary, however, to mention, that on the question of parliamentary reform, the Rockingham branch of opposition opposed the measure; and the duke of Richmond, lords Shelburne, Chatham, and Camden, Mr. Dunning, and Mr. Fox defended it.

The leading features of Mr. Burke's political conduct, while pay-master general in the Rockingham and Fox administration, was the adoption of the plan for economical reform, which had been rejected by the house of commons in 1785. It however underwent several modifications. The political convulsions which ensued on lord Rockingham's death, are well remembered. The coalition, and the India bill were forged and pushed forward with much ardour by Mr. Burke, and principally, if not entirely, produced that decline of popularity, which both himself and his friends experienced.

The event in which Mr. Burke stood most prominent before the public, in the interval between the formation of Mr. Pitt's ministry, and the French revolution, was the impeachment of Mr. Hatlings. His speeches on this occasion were among the most splendid triumphs of his eloquence, though not among the most felicitous of his judgment. They were marked by intemperance and exaggeration, apparently produced rather by the ambition of rivaling Tully in his eloquent and delicious abuse, than arising from a sober examination of facts, or a serious conviction of guilt. The charges of avarice and malice have never been adequately supported, and can only be mentioned to be denied in grave and impartial biography.

Mr. Burke had never been remarkable for an even temper in the discussion of political questions: his irritability increased with his years, and his conduct became impetuous and violent. He injured the cause, and incurred the displeasure of his associates on the question of the regency, and burst asunder all the ties of friendship, as well as political connection, on the breaking out of the French revolution. That event, together with the conduct and opinions of Mr. Burke relating to it, is so recent, that it will be sufficient barely to enumerate his publications on the subject, with the single observation, that he seems from this time forward to have cherished his antilegal principles into the most inveterate bigotry, and to have negatived in turn every maxim of practical freedom, which he had formerly enforced. Still, however, it is to be hoped, that his manners, as a public man, may candidly be attributed to impetuosity of character, and dulness of imagination, rather than to any worse motives.

The celebrated "Reflections" were published in October 1790, which were first answered by Dr. Prittle, in vindication of his friend Dr. Price, and afterwards by Thomas Paine in his "Rights of Man."

The next publication of Mr. Burke was his "Second Letter to a Member of the National Assembly," and the third, his "Appeal from the New to the Old Whigs," in consequence of the publication from the whig club, declaring Mr. Fox to have maintained the pure doctrines of English whiggism.

In 1794, Mackintosh's "Vindication of Gallican" appeared, and Mr. Burke's principal publications afterwards were, his "Letter to Lord Fitzwilliam," and "Thoughts on a religious Peace."

On the close of Mr. Hallings' trial, Mr. Burke retired from parliament; but his domestic comfort was irretrievably impaired, and his life probably shortened by the death of his son, in the year 1794. The father survived three years, which were principally employed in acts and schemes of benevolence to the French emigrants and their families. He retained his faculties in perfection to the last, and died without bodily struggle, or discomfort of mind, on the 8th of July, 1797.

The qualities of Mr. Burke's mind will be best exemplified by a few of his opinions on literary subjects. Virgil and Lucretius were his favourite Latin poets. He preferred the histories and epitaphs of Horace to the odes. He esteemed the Greek historians and orators more highly than the Latin. The delineation of ancient manners and characters in Homer delighted him; and he read the Odyssey more frequently than the Iliad. Among the dramatic writers, he gave the preference to Euripides over Sophocles. The modern authors with whom he was most pleased, were Bacon, Shaftesbury, Addison, Le Sage, and Fielding. He thought Richardson far inferior to the latter; he did not like Swift, and had a very poor opinion of Gay; particularly of his "Beggar's Opera."

He paid much attention to farming, and displayed taste in his improvements at Beaconsfield. He was one of the most successful gentlemen farmers, and constantly supplied his family in town from the produce of his own estate. He was particularly hospitable, and indulged in the pleasures of the table, but never to excess. He was liberal to common beggars; and ascribed the ordinary principle of discouraging them, rather to avarice than policy.

As a speaker, Mr. Burke was characterized by a superficiality of ideas and images, often too abundant to be applied with propriety, or felicitous and arranged with judgment. Early in life, he was remarkably careful of his language, and revised his speeches with attention. Latterly, he became blamably diffuse and extravagant, though his ingenuity never failed. He was particularly ambitious of excellence in the management of his voice and action; yet, after all, the former was but harsh, and the latter forcible, but strained.

His "Essay on the Sublime and Beautiful" has placed him in the highest class of writers on subjects of taste and criticism; nor can his whole character be summed up with so much strength, conciseness, and truth, as in the memor-


"Burke is one, with whom, if you were to take shelter from a shower under a gate way, you would try you had been in company with the most extraordinary man you had ever seen."

**BURKE, in Geography, a county of America, in Morgan district, North Carolina, containing 818 inhabitants, of whom 525 are slaves. Its capital is Morgan-town.**

**BURKE, John James, in Biography, an eminent civilian, was defended of a noble family, originally from Lucca, and born at Geneva in 1694; where he became honorary professor of jurisprudence in 1720. After travelling into France, Holland, and England, he commenced the exercise of his functions, and rendered his felicitous and flourishing. One of his pupils was Prince Frederic of Hesse-Cassel, who, in 1734, took him to his residence, and detained him there for some time. Upon his return to Geneva, he surrendered his professorship; and in 1740 entered into the grand council; and, as a member of this illustrious body, he continued to serve his fellow-citizens till his death, in 1750. As a writer, he was distinguished for his originality by his clear and accurate method of detailing and illustrating the principles of others; among whom are Grotius, Puffendorf, and Barbeyrac. His works are, "Principles of Natural Law," 4to. Geneva, 1747; often reprinted, translated into various languages, and long used as a text-book in the university of Cambridge; and "Political Law," 4to. Gen. 1751; a pathomous work, compiled from the notes of his pupils. Burlesque was much esteemed in private life; and respected as a lover of the fine arts, and a patron of artists. He had a valuable collection of pictures and prints; and a medal of him was executed by Daffier in a style of superior excellency. Nov. Dict. Hill.**

**BURLATTS, in Geography, a town of France, in the department of the Tarn, and district of Cahors, 4 miles east of it.**

**BURLAW, or BYRLAW, lurian, in Middle Age Writers, denotes country laws, or the laws concerning country affairs. Du-Cange. See BYE-LAW.**

**BURLEIGH, in Biography. See Cecil.**

**BURLING, or BURNE, a jocose kind of poetry, chiefly used in the way of drollery, either to excuse laughter merely, or to provoke derision and ridicule. Of the former kind is "Virgil travestie," which degrades a grave subject, by a certain colouring, so as to be ribald; and of the latter, the "Lutrin" of Boileau, which lays hold of a low and trifling incident to expose the luxury, indolence, and ligious temper of a set of monks. This kind of burlesque produces effect by elevating the style far above the subject, and yet affecting to consider it as of the utmost dignity and importance. In a burlesque poem, such as the Lutrin, the Duplenfary, and Hudibras, machinery may be employed with greater advantage than in any other species of poetry; and the more extravagant the machinery in a ludicrous poem, the greater is the entertainment which it affords. "Burlesque," says Mr. Shenton, (Works, vol. ii. p. 183. 3d edit.) "may, perhaps, be divided into such as turns chiefly upon the thought, and such as depend more upon the expression; or we may add a third kind, consisting in thoughts ridiculously dressed in language much above or below their dignity. The Splendid Shilling of Mr. Philips, and the Hudibras of Butler are the most obvious instances. Butler, however, depended much upon the ludicrous effect of his double rhymes." Dr. Johnson, in his life of Butler (Lives of the Poets), after observing, that "burlesque consists in a disproportion between the style and the sentiments, or between the adventitious sentiments and the fundamental subject," adds, that this, "like all bodies compounded of heterogeneous parts, contains in it a principle of corruption. All disproportion is unnatural; and from what is unnatural, we can derive only the pleasure which novelty produces. We admire it while it is a strange thing; but, when it is no longer strange, we perceive its deformity. It is a kind of artifice, which by frequent repetition detests itself; and the reader, learning in time what he is to expect, lays down his book, as the spectator turns away from a second exhibition of the same tricks, of which the only use is to show that they can be played."

F. Vaussor maintains, in his book "De Ludicia Diction," that burlesque was absolutely unknown to the ancients; against the opinion of some others, that one Rainto- vius, in the time of Ptolemy Lagus, turned the serious sub- jefts of tragedy into ridicule; which, perhaps, is a better plea for the antiquity of farce than of burlesque. The Italians seem to have the juster claim to the invention of burlesque. The first author in this kind was Berni; he was followed by Lalli, Caporalli, &c. From Italy it paffed into France, and became there so much the mode, that in 1690 appeared a book under the title of "The Paffion of our Saviour, in Burlesque Verse." Thence it came into England; but the good sense of the English never adopted nor owned it, notwithstanding one or two have excelled in it.

**BURLETTA,**
BURLETTA, Ital. from burdare, to Jeff, be jovial, decide, turn to ridicule, in Major. It is extraordinary that the term burletta, so common in speaking of comic operas, appears in no musical dictionary. Comic operas begun by an intermezzo, a single act or scene, as an act tune between any two acts of a drama. See Opera Buffa.

BURLINGTON, See Burlington.

BURLINGTON, a county of America, in New Jersey, extending across from the Atlantic ocean on the S. E. to Delaware river, and part of Huntingdon county on the N. W., in length about 60 miles. A great part of it is barren; but about three-eighths of it are under cultivation, generally level, and well-watered. It has 18,695 inhabitants, including 277 slaves. A city, the capital of the above county, under the government of a mayor, aldermen, and common council. The extent of the township is 3 miles along the Delaware, and a mile back; being about 18 miles N. E. of Philadelphia, and 11 from Trenton. The island, which is the most populous part, is about a mile each way; and includes about 150 houses, and 1000 white and 140 black inhabitants, of the last some being slaves. The streets are commodiously spacious, and mostly ornamented with rows of trees. The town is opposite to Bridget in Pennsylvania, where the river is about a mile wide. Under the shelter of Middletown and Burlington island is a safe harbour, conveniently adapted for trade, but too near to Philadelphia to allow of much foreign commerce. Burlington was first settled in 1677, and has an academy and a free-school. Middletown island belongs to the latter, and yields a yearly profit of 180l. This town has a place of worship for the Friends, who are the most numerous, and another for the Episcopalians. It has two market-houses, a work-house, and the bell gaol in the flate. Here are likewise a nail manufactory, and an excellent distillery. N. lat. 40° 9'. W. long. 74°.

Burlington, a township of America, in Otsego county, New York, divided by an act of the legislature in 1797 into two towns. — Also, a pleasant township, the chief in Chittenden county, Vermont, situated on the south side of Onion river, on the east bank of lake Champlain, and containing 332 inhabitants. The governor and patrons of the college of Vermont have selected this healthy and agreeable situation for a seminary, for the education of young persons of all denominations. Burlington is 22 miles distant northerly from Vergennes, 122 from Bennington, and 332 from the city of New York. N. lat. 44° 30'.

Burlington, or Queen's Bay, lies on the east side of lake Champlain, about 34 miles N. by E. from Crown point, 69 S. E. from lake St. Francis in St. Lawrence river, and 70 southerly from St. John's. N. lat. 44° 22'.

Burlow, a town of Germany, in the circle of Welfphalia, and bishopric of Munster; 4 miles N. W. of Borengen.

Burmann, Peter, an eminent philologist, was the son of the preceding, and born in 1676 at Utrecht, where he was educated, and where he attended the lectures of the learned Gravines. Devoting himself to the profession of the law, he studied for some time at Leyden, and in his 25th year took the degree of doctor of laws. Having gained reputation in the exercise of his profession, he was, in 1696, appointed professor of eloquence and history in his native city, and afterwards of Greek and politics. From this time he devoted himself wholly to literature, and became one of the most laborious commentators and editors of the age. He published, with his own notes and those of other critics, Villius Paterculus, Quintilian, Valarius Flaccus, Virgil, Ovid, Suetonius, Lycan, Phaedrus, and Petronius, and also a collection of the minor Latin poets, in 2 vols. 4to. He also wrote a treatise "On the Taxe of the Romans," edited several learned works, with prefaces and notes, and was the author of various disquisitions, discourses, and pieces of Latin poetry. As a commentator, he was distinguished more by his industry and erudition than for his genius and talent; and though he is deficient in the elucidation of obscure and difficult passages, he has accumulated a mass of materials from which other grammarians and critics may derive great advantage. He was twice rector of the university, and thrice private secretary to the academical senate; and to his other honours was added the professorship of the history of the United States. He died in 1741. Moren. Gen. Biog.

Burmann, John, M. D. of a noble and wealthy family, and of no mean literary acquirements, employed much labour and expense in editing various botanical works, particularly those giving accounts of plants procured from the ladies. In 1736 he published an edition of Weimann's Herbal, to which he added several plates with African plants. His next publication, in which he had the assistance of Linnæus, then a young man, was the "Thesaurus Zeylanicus: exhibens Plantas in Insula Zeylana nascendae; Iconibus illustratus," 4to. 1737, taken from various travels, with new descriptions and plates. The following year he was appointed professor to the botanical garden at Amsterdam, and soon after published "Rariarum Africantium Plantarum, Decades Decem," 4to. principally from Witten and Vanderkloof, to which, however, he made several additions. He translated Rumphiis's great work into Latin, which he enriched with valuable notes, and published under the title of "Exercitii Rumphii Herbarium Amboinense, continens plantas in os, et adjacentibus Insulis repertas." His last labour was procuring engravings to be executed, from the drawings of American plants left by Plumier, to which he added descriptions, with the modern, and former names. His son,

Burmann, Nicolas Lawrence, following the steps of his father, took his degree as doctor of medicine at Leyden, in 1759, and published, for his inaugural thesis, "Specimen Botanicum de Geraniis," 4to. In 1763, at Amsterdam, "Flora Indica, accuratissimi Zoeophytorum Judiciorum, nec

Gen. Ch. Cal. puriathius long, one-leaved, prismatic, coloured, with three longitudinal, membranaceous angles; the mouth trihod, small. Cor. petals three, ovate, oblong, placed in the mouth of the calyx, very minute. Stem. filaments fixed, very short; anthers in the mouth of the calyx, placed two by two, separated by a reflexed joint. Pet. germ superior, exstipulate, half the length of the calyx; style: thread-shaped, the length of the corolla; stigmas three, obtuse, concave. Fr. capsule covered by the calyx, cylindrical, three-angled, three-celled, three-valved, opening at the angles. Seeds numerous, very small.


Ob. La Marck describes the calyx as having its border divided into five segments, the three inner ones small, with the shape of petals. Jullien, in conformity with the principles of his systena, with respect to all monocotyledonous plants, laid before adopted the same idea. He styles it a very singular genus, allied to no other, except perhaps to Hypoxis.


Both these species were cultivated by Mr. Miller, in 1768. They are difficult to preserve in gardens, for as long as they will not thrive when planted in dry ground, they must be planted in pots plunged in troughs of water, so as to cover the surface of the mould about three inches. The troughs in which the first is planted must be carefully kept in a warm house. The other should be placed in a green house in winter, but in summer may be exposed to the open air. With this management they will sometimes bear flowers. Martyn's Miller.

BURMANNIANA, in Entomology, a species of *Phalaena* (Tortrix) of a large size. This inhabits Surinam. The wings are pale, with four black coiled spots on the anterior pair. *Gmel. &c.*

BURN, in Surgery, is a lesion of the animal body, occasioned by the application of heat in a solid form. It differs from a **scald**, only inasmuch as the latter is produced by the application of heat in a fluid form.

The consequences of a burn are more or less serious, in proportion to the extent and depth to which the ignited substance produces its effects. An extensive burn in an irritable person will sometimes occasion death, although the subjacent parts be not deeply injured; and a deep burn, of small extent, may likewise prove fatal, according to the structure or importance of the part affected.

The first effects of a burn are to cause pain and inflammation; presently afterwards, the exhalent arteries, being excited to action, will effuse a quantity of serum under the skin, and raise the cuticle like a blister; if the burning acts deeply, it will kill and decompose the subjacent flesh, so as to length to produce an eschar.

In treating burns, we must attend to the existing symptoms. If the skin remains whole, and the accident be recent, we should immediately have recourse to very cold applications, with the view of diffusing inflammation and abating pain. For this purpose, ice-water, snow-water, a solution of acetic acid, or Goulard's extract of lead, properly diluted, may be used with great freedom. Spirituous applications, which produce cold on evaporating, have been recommended with the same intention. The common people, with good reason, advise milked potatoes, or turnips, to be applied cold, as a poultice. But the above means are only proper in the beginning, and where the skin is not removed, so as to leave an excoriated or raw surface. In conjunction with these antiphlogistic remedies, we may abate pain and procure rest by the liberal exhibition of opium; at the same time interposing laxative medicines, and enjoining absolute repose to the injured part.

The plan, however, must be somewhat different in cases of deep and destructive burns, where suppuration, ulceration, or mortification, are likely to ensue.

In the second stage or degree of burns, where the mischief has penetrated rather deeply, but not below the common integuments, it is usual to apply to the part a dressing of soft ointment, which will not irritate or produce pain; such as the spermaceti ointment, fatumurine cerate, elder ointment, or equal quantities of oil and lime-water shaken together, and applied several times a day. The antiphlogistic regimen should also be observed, if the inflammatory symptoms run high.

But, when the nature of the case is very serious, and there is room to expect a gangrenous or sloughing ulceration, in consequence of the burn being very extensive, we must be cautious not to put the antiphlogistic treatment too far; nay, it may even be altogether inappropriate, and a stimulating or tonic course of remedies may be proper.

Mr. Edward Kentish, of Newcastle, who has had much practice among the workmen in the coal mines, where explosions often occur, is of opinion that pure alcohol or oil of turpentine is the best local application at the beginning, and a cordial diet to support the patient's strength. Our own experience justifies that gentleman's plan, and especially in very deep burns, where sloughing proves inevitable. We sometimes, however, have found it necessary to mix equal parts of olive, or linseed oil with the turpentine, to prevent its giving an unsufferable pain.

It is scarcely requisite to add, that in the event of gunpowder, or any other extraneous substance, being forced into the burned part, it should be gently washed away or removed with all possible care. If great tension arise in the part, we should occasionally employ warm enemial cataplams and unnyne fomentations. When the vitality of a member has been totally destroyed, so that its use is irrecoverable, we may be compelled to amputate the limb. See **Moxa**, **Caustic**, **Cautery**, **Heat**, **Scald**, and **Amputation**.

BURNING, or Basting, in Agriculture, the operation of cutting or paring off the surface of turf, and reducing it to ashes by means of fire. It is principally employed as a method of bringing into cultivation such waste and other lands as contain much coarse grass, or other vegetable productions on the surface. Where this is not the case, it can seldom probably be made use of to so much advantage. It is
is in some districts termed Burn-becating; and also Drasheeing, from Devonshire, a county in which it has been long practised. See Persing and Burning.

Burn, heart. See Cardialgia.

BURNET, Gilbert, in Biography, an eminent English prelate and writer, was born at Edinburgh in 1633. His father was the descendant of an ancient family in the shire of Aberdeen, educated for the bar, esteemed for judgment and knowledge in his profession, and disinterested in the exercise of it. As to his religious principles, he was a moderate episcopalian; and in the time of Cromwell lived in retirement, but after the restoration was appointed one of the lords of Seilicon. His mother was exemplary for virtue and piety, and zealously attached to the Presbyterian discipline. Having received the full rudiments of education from his father, he prosecuted his studies in the college of Aberdeen, and made such proficiency, that when he was scarcely 14 years of age, he took his degree of Master of Arts, and became a student of civil law. But soon changing his purpose, he devoted himself to divinity; and at the age of 18, he was put upon his trial as a probationer, or expectant preacher. Declining, on account of his youth, to accept a good living which was offered him, he finished his education by means of the counsel and conversation of some eminent Scots divines, and, in 1663, visited the two English Universities, where he had an opportunity of intercourse with the most learned persons of that period. Having again refused ecclesiastical preferment in Scotland, he travelled into Holland in the following year, and after residing for some time at Amsterdam, he passed through the Netherlands into France, and made some stay at Paris. On his return to Scotland by way of London, he became a member of the Royal Society; and, in 1665, he received priest's orders, and was presented to the living of Saltoun. Here he discharged the duties of his office with exemplary fidelity, and gained the esteem of the presbyterians, though he was the only clergyman in Scotland that used the liturgy of the church of England. At this time he incurred the resentment of the episcopal order, by drawing up a memorial of the abuses of the Scots bishops, copies of which he circulated among all the prelates of his acquaintance; but this conduct, on the part of a young man at the age of 22 years, gave such offence, that Sharp, Archibishop of St. Andrew's, preposed to deprive and excommunicate him. Against this attack Burnet made a spirited defence, and Sharp proceeded no farther. In 1666 he accepted the office of theological professor in the University of Glasgow, and continued for four years and a half to perform the duties of it with singular diligence; exposing himself at the same time, by his moderation, to the ill-will of the zealous of both the episcopalians and presbyterian parties. His pamphlet, published this year, and entitled, "A modell and free Conference between a Conformist and Non-conformist," was well received by all candid persons, though it did not escape the censtores of bigots. Notwithstanding the time and attention which he devoted to his public lectures, he was employed in arranging the papers of the Hamilton family, and compiling from them his "Memoirs of the Dukes of Hamilton," and he was thus led to negotiate and conclude a reconciliation between the earl of Lauderdale and the duke of Hamilton. During his stay in London on this occasion, he was offered a Scots bishopric, which he refused. On his return to Glasgow, he married lady Margaret Kennedy, the daughter of the earl of Caullis; who was distinguished by her piety and knowledge, and though inclined to the party of the presbyterians, was far from being a zealot, and had given evidence of her loyalty, even at the risk of her life, during the usurpation of Cromwell. In 1672, Burnet, published "A Vindication of the Authority, Constitution, and Laws, of the Church and State of Scotland," in which he defended the royal prerogatives of the crown of Scotland, and the establishment of episcopacy in that kingdom, against the principles of Buchanan and his followers. This publication drew upon him the censures of Dr. Pickles, whose calumnies he confuted, and occasioned some severe reflections of Dr. Swift, by whom he is charged with having altered his sentiments concerning the doctrines of passive obedience. Whereas the illegality of resistance, merely on account of religion, probably in opposition to the violent Scotch consciences, is the point for which he contends. It seems, indeed, always to have been his opinion, that resistance could not be justified by single acts of oppression, and that it was not lawful till attempts were made to overturn the very basis of the constitution. In recompence for this acceptable service to the court, he was again offered a bishopric, with the promise of the first archbishopric that should become vacant; but he declined accepting this dignity. In the following year he visited London with the offenible design of obtaining a licence for the publication of his "Memoirs of the Dukes of Hamilton," and, as it is said, with a secret purpose of withdrawing himself from State concerns, under a persuasion that papacy was the prevailing interest at court. At this time, however, he was a favourite with his Majesty and the duke of York, and was nominated one of the king's chaplains in ordinary. In an interview with the king, to whom he was introduced by the duke of Lauderdale, he used all the freedom which, as he thought, became his profession. But suspecting the designs of the court party, he inclined to the opposition in the Scots parliament, and thus incurred the enmity of the duke of Lauderdale, who preferred accusations against him, which deprived him of the royal favour. As a measure of personal security, he resigned his professorship at Glasgow and determined to reside in London, but upon his arrival there he was coldly received by the king, and struck out of the list of his chaplains. He was now considered as a sufferer for his principles, and, in 1675, having refused the living of St. Giles's, Cripplegate, which was offered him, he was appointed, by the recommendation of lord Holles, preacher at the Rolls, and he was soon after chosen lecturer of St. Clement's, where he acquired the reputation of a very popular preacher. In the course of this year he was repeatedly examined at the bar of the House of Commons with respect to the designs of Lauderdale, and obliged to communicate some particulars that had paf ted between himself and the duke in private conversation. The alarm that agitated the country at this time, occasioned by the progress of papistry, induced Dr. Burnet to write "The History of the Reformation of the Church of England," the first volume of which appeared, in folio, in 1679, when the papish plot occupied the public attention; the publication of this work was highly acceptable, and the author received the thanks of both houses of parliament, which was an honour that had no precedent, and he was requested to complete it. Accordingly, in 1684, he published the second volume. The third volume, being a "Supplement" to the two former, appeared in 1714. This work, though it was attacked by many censtores, has been generally esteemed the most valuable of the author's performances, and contains a correct and ample account of the transactions to which it relates. It was well received abroad as well as at home, and very much contributed to advance the reputation of the author. Dr. Birch, in his Life of Archibishop Tillotson (p. 59) observes, that this is one
of the most valuable histories in our own or any other
language: and that the publication of it was of most fea-
tious
and the alarms of popery. Dr. Burnet called for the second edition of his book, and proposed a new preface in 1682. His main theme was the decline of the protestant religion in Europe, and his advocacy of religious toleration. Dr. Burnet had been a strong advocate of religious toleration, and his works on the subject were well known.

Accordingly, in 1682, Dr. Burnet published "The History of the Reformation," which was well received. However, he was not without his critics, and his works were often criticized for their pro-tection of the Protestant cause. This criticism was especially pronounced in the work of John Tindal, who wrote a series of letters attacking Burnet's views on religion. Tindal argued that Burnet was a Jesuit agent, and that his works were designed to undermine the Protestant faith. Burnet fought back with a series of replies, defending his position and attacking Tindal's views.

In 1688, Dr. Burnet wrote "A Treatise on the History of the Reformation," which was well received. This work was a continuation of his earlier works, and it was well received. However, his works were often criticized for their pro-tection of the Protestant cause. This criticism was especially pronounced in the work of John Tindal, who wrote a series of letters attacking Burnet's views on religion. Tindal argued that Burnet was a Jesuit agent, and that his works were designed to undermine the Protestant faith. Burnet fought back with a series of replies, defending his position and attacking Tindal's views.

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In 1701, Dr. Burnet wrote "A Treatise on the History of the Reformation," which was well received. This work was a continuation of his earlier works, and it was well received. However, his works were often criticized for their pro-tection of the Protestant cause. This criticism was especially pronounced in the work of John Tindal, who wrote a series of letters attacking Burnet's views on religion. Tindal argued that Burnet was a Jesuit agent, and that his works were designed to undermine the Protestant faith. Burnet fought back with a series of replies, defending his position and attacking Tindal's views.
of the clergy: and in the following year, "Four Discourses to the Clergy of his Diocese," on the "Truth of the Christian Religion," the "Divinity and Death of Christ," the "Infallibility and Authority of the Church," and the "Obligation to continue in the Communion of the Church.

In 1694, he preached the funeral sermon of archbishop Tillotson, and vindicated his memory from the attacks of his enemies; and, in the following year, he wrote in the highest strain of eulogy, an "Essay on the Character of Queen Mary, on occasion of her death." Having left his wife in 1698, he soon supplied the loss by a marriage with Mrs. Berkley, whom he entered with the care of his children, and who seems to have been well qualified for undertaking this charge, as she was a lady of distinguished benevolence and piety. Her treatise, entitled, "A Method of Devotion, or Rules for holy and devout Living, &c." was published in 1800, and well received. In the same year, bishop Burnet was appointed preceptor to his highness the duke of Gloucester, and he took great pains in the conduct of his education till his death. In 1699, he published his "Exposition of the 39 Articles of the Church of England," which, notwithstanding the censure passed upon it by the lower house of convocation, and several private attacks, has been reckoned a learned and judicious performance. It was undertaken at the request of queen Mary, revised and corrected by archbishop Tillotson, and published, with an appendix, by the archbishops Tenison and Sharp, and the bishops Stillingfleet, Patrick, Lloyd, Williams, and More. Bishop Burnet had the honour of first projecting the scheme for the augmentation of poor living, which was functioned in 1701 by act of parliament. See Augmentation. During the remaining years of his life, he was employed in the composition and publication of several treatises appropriate to his profession, among which, we may reckon a collection of "Sermons," and "Pamphlets," 2 vols. 1700; an "Exposition of the Church Catechism," 1703; and "Sermons on several Occasions," with an "Essay towards a new Book of Homilies," and a "Preface," containing a judicious and elaborate defence of the revolution. He was also the author of a great variety of pieces, some of which were published during his life, and others after his death. A catalogue of his works, drawn up by Dr. Flexman, is annexed to the later editions of his "History of his own Time." To this catalogue, some few publications have been added in the last edition of the "Biographia Britannica;" and particularly "Thoughts on Education," printed at London in 1761, from an original MS., drawn up when the author was not quite 25 years of age, and containing a variety of observations which indicate much knowledge and reflection. The close of his life, which was terminated by a pleuritic fever on the 7th of March, 1715, was suitable to the character which he had uniformly maintained, and manifested that tranquillity and firmness, which his religious principles were adapted to produce and justify. His remains were deposited in the parish church of St. James's, Clerkenwell. By his last will he left orders, that the "History of his own Time" should not be printed till five years after his death, and then faithfully, without adding, supressing, or altering it in any particular. Accordingly, the first volume was printed at London in 1723, and the second in 1734, with an "Account of the Author's Life" annexed to it, in folio, by his son, Thomas Burnet Esq. This work has given rise to a great number of virulences, and various sentiments have been entertained concerning it. At its first appearance, a general clamour was excited against it among the Tories and high churchmen; and many other persons were offended by the freedom with which particular characters were drawn, and particular facts represented. The wisest too combined to expose it to ridicule. The real merit of this history seems to be very candidly and impartially appreciated in the last edition of the "Biographia Britannica." Allowing for the errors and inaccuracies common to the historians of that period, for some influences of party prejudice and credulity, and for that disposition to look on the dark side of a character, and to exaggerate the failings and faults of public men, which in some cases may have given a bias to the author's judgment; admitting his integrity, and his desire to state the truth of facts according to the best of his knowledge; and recollating that when he appeals to the testimony of others, he honestly refers us to his authorities, and that several of the facts which occur in his history, and which were at first regarded as dubious, have, since his time, been proved to be true; this history may be regarded as containing, upon the whole, a faithful and interesting representation of times and manners. "In short, it is written with a spirit of integrity and liberty that cannot fail of recommending it to a judicious reader; and there are few histories in our language which will be found to convey more solid and useful information. Accordingly, notwithstanding the various attacks to which it hath been exposed, it seems to be rising in reputation; and, in our opinion, (Biog. Brit.) it clearly deserves the encomium which hath lately been bestowed upon it by a very elegant poet."

"Yet Burnet's page may lasting glory hope,
How'er infaulted by the spleen of Pope.
Tho' his rough language hale and warthm denote,
With ardent hostility of soul he wrote:
Tho' critic cenfures on his work may shower,
Like faith, his freedom has a saving power."

Hayley. Ef. on His. p. 51.

This testimony deserves the more to be regarded, as the bishop has spoken of poets in terms somewhat disparaging, and thus incurred the obloquy of persons of taste. Virgil for his fancy, says Burnet, in his "Thoughts on Education," defamation not the name of a poet, but of an elegant writer. Dryden he reproves, probably referring to his plays, and not to his personal character, as a mutter of immodesty, and of impurity of all sorts; and Prior he styles, one Prior, though he had long before distinguished himself by his elegant poetical productions.

As a writer, though the bishop ought not to be ranked in the first class of authors, he deserves the praise of pertinacity, vigour, and variety of knowledge; and we ought therefore to allow for party-prejudice, when we advert to the alacrity with which Dr. Swift has reproved his style. What were his sentiments as a theologian, we may infer from the publications already enumerated, and particularly from the testimony borne to his vindication of the 39 articles by the principal dignitaries of the church. With his attachment to the church, he blended a considerable degree of moderation and liberality towards Protestant dissenters, and others who differed from him; and with respect to political matters, although he has been reproached as a party-man, he was candid in his judgment of persons of different connections, and he even exercised great kindness towards some who had engaged in devils against the government. In his general character, he was pious and devout, copedeeding and communicative, benevolent and charitable; exemplary in the diligence with which he performed all his clerical and episcopal functions, disinterested as a patriot, and eminently ardent and active in his prosecution of every
measure, which, in his judgment, tended to the public good. His fillings were vanity, credulity, self-importance, over-officiousness, and a kind of gallipipng garritude. It is natural to imagine, that, considering the times in which he lived, and the offensive part which he took in public and political concerns, he would not be likely to escape reproach; but notwithstanding the freedom and fearvity with which his principles and character have been scrutinized and confounded, his name has descended to posterity with honour, and his public services at an interesting period in the history of this country, as well as his private character, will be recognized with admiration by all persons, who are attahed to the interests of constitutional liberty and the Protestant religion.

Bishop Burnet, by his second wife, Mrs. Mary Scott, had seven children, three sons and four daughters. His three sons survived him, as well as two of his daughters. William, his eldest son, was educated as a gentleman-commoner in the university of Cambridge, and made choice of the profession of the law. Having been a great sufferer in the South sea scheme of 1720, he became governor, first of New York, and the Jerseys, and afterwards of the Massachusetts and New Hampshire. He died at Boston in 1793; and was the author of a tract, entitled, "A View of Scripture Prophecy."

Gilbert, the bishop's second son, was educated at Leyden, and as a commoner of Merton-college, in the university of Oxford, with a view to the church. Having entered into holy orders, he was king's chaplain in 1718, when he could not be 30 years of age, and he is said to have contributed to a periodical paper at Dublin, entitled "Hibernicus's Letters," and also to another valuable paper, entitled "The Free-thinker," afterwards published in 3 vols. 12mo. and now become scarce. He was also a distinguished writer on the side of Hoadly in the Bangorian controversy, and was confederated by this eminent prelate as one of his own defenders. His "Full and Free Examination of several important Points relating to Church Authority, &c. &c." was printed in 1718, 8vo. and has been reckoned a masterly performance, displaying great liberality of mind, strong powers of reasoning, and an accurate acquaintance with scripture. In 1719, he published an Abridgment of the third volume of his father's History of the Reformation. He died in early life. The Gilbert Burnet who abridged the Boylean lectures was a different person. See Boyle's Lectures.

Thomas, the bishop's third son, enjoyed the same advantages of education with his two elder brothers. He was admitted a commoner of Merton college in the university of Oxford, and having studied two years at Leyden, made a tour from France, through Germany, Switzerland, and Italy. Upon his return to England, he devoted himself to the profession of the law, and in early life pursued a course ofdiffutation, which occasioned great uneasiness to his father. At this time, however, viz. in 1712 and 1713, he wrote several political pamphlets in support of the Whigs against the administration of the four last years of queen Anne. One of these pamphlets caused his being taken into custody in January 1713; and in another, entitled "Some new Proofs, by which it appears, that the Pretender is truly James the Third," he gives the same account, in substance, of the Pretender's birth, that was afterwards published in the bishop's History of his own Time. Notwithstanding these literary engagements, he still pursued his wild courses; but one day, being unusually grave, his father asked him what was the subject of his meditation: "A greater work," replied the son, "than your lordship's History of the Reformation;" "what is that, Tom?" "My own reformation, my lord." "I shall be heartily glad to see it," said the bishop, "but almost despair of it." This, however, was happily accomplished after the bishop's decease; and Mr. Burnet became, not only one of the best lawyers of his time, but a very respectable character. After the accession of George I. he wrote a letter to the earl of Halifax on the "Necessity of impeaching the late Ministry," which was followed by "A second Tale of a Tub, &c." being a satire on the earl of Oxford and his ministry. Soon after his father's death, he published "A Character of the right reverend Father in God, Gilbert Lord Bishop of Sarum; with a true Copy of his last Will and Testament." Mr. Burnet was also concerned with others in writing a travesty of the first book of the Iliad, under the title of "Homeries," which gave occasion to Mr. Pope for introducing him into the Dunciad, and in a weekly paper called the "Grunbler." About this time he was appointed his majesty's consul at Lisbon, where he remained for several years. Upon his return, he returned the profession of the law, and rose through several gradations of preferment, in 1741, to the rank of one of the judges of the court of common pleas. He also received the honour of knighthood, and became a member of the royal society. In the court of common pleas he continued, with great reputation, to his death, which happened on the 5th of January 1753. His character was that of an able, upright judge, a sincere friend, a sensible and agreeable companion, and a munificent benefactor to the poor. A remarkable clause in his will, in which he expresses the sentiments of a judicious and candid person, who understood the true nature of Christianity, and who, whilst he gave the preference to the church of England, was persuaded that no religious establishment was entirely free from defects, furnished occasion for some critiques in a serious and sensible pamphlet, entitled "The true Church of Christ, which, and where to be found, &c." Some poetical productions of his youth were published in 1777, 4to.; the characteristic excellence of which is an easy negligence and elegant simplicity.

Besides his Thomas Burnet, there lived in the last century another Thomas Burnet, who was an eminent divine, and author of several valuable publications. He was educated in New College, Oxford, became rector of Wilt, and prebendary of Sarum; and died in May 1750. His four principal works are, "An Answer to Tillotson's Christianity as Old as the Creation;" a "Treatise on Scripture Politics;" a "Course of Sermons preached at Mr. Boyle's Lecture;" and an "Essay on the Trinity," in which last performance he endeavours, with great ingenuity and plausibility, to unite the rationality claimed by the Unitarians, with the orthodox language of those who admit the Athanaian doctrine of the Trinity. Gen. Dicr. Bib. Brit.

Burnet, Thomas, a learned and ingenious divine, erroneously supposed to be a native of Scotland, was born at Croft, in Yorkshire, in 1635, entered, in 1651, at Clarehall, in the University of Cambridge, under the mastership of Mr. John Tillotson (afterwards archbishop of Canterbury), and upon the removal of Dr. Ralph Cudworth from the mastership of that college to that of Christ-college, admitted of that house, and chosen fellow in 1652, and in 1661, senior proctor of the University. After his travels, as tutor to the earl of Wiltshire, and as governor to the duke of Bolton, and the earl of Ormond, afterwards duke of Ormond, he settled at home; and became distinguished as an elegant writer and an acute philosopher. Of his celebrated work, entitled "Telluris Theoria Sacra, &c." the first two books were published in 1680, and the two remaining books in 1689, in 4to. This performance
formance was so much admired on its first appearance in Latin that the author published an English edition of it, in substance the same with the Latin, but newly composed with a variety of additions, in 2 volumes: the first of which was dedicated to king Charles II.; and the second to queen Mary. To the fifth edition, in 1726, is added, the "Author's Defence of the Work from the Exceptions of Mr. Warren, and the Examination of Mr. Keill." Of this theory a particular account will be given in a future article. See Earth. We shall here observe, that though the principles of it have been demonstrated to be erroneous, and it can be regarded only as a beautiful philosophical romance, it was much applauded on its first appearance, and many persons were seduced by the invention and ingenuity displayed in it, and by the elegance of its composition. Among its admirers we may reckon Bayle, who entertained a very high opinion of it, and particularly Mr. Addison, who addressed to the author an elegant Latin poem, in which he has transfused the fancy and sublimity of the original. The mathematicians, however, were not so easily seduced. Mr. Keill attacked it with severity; and Mr. Flamsteed observed concerning it, that "there went more to the making the world than a fine turned paper; and that he was able to overthrow it in one sheet of paper." In 1685 Dr. Burnet was elected, by the interregnum of the duke of Ormond, into the maitership of the Charter-house; and soon after he entered into holy orders. In his situation at the Charter-house he refuted the illegal attempt of king James II. to introduce one Popham, a papist, as a pensioner into that house; and his opposition to him was supported by the other governors, the lord chancellor Jefferyes excepted, so that the king desisted from pursuing the confett. After the revolution, Burnet was appointed chaplain to king William, and through the interregnum of archbishop Tillotson, clerk of the clozet to that prince. In 1692 he published his "Archeologia Philofohica," in which he not only questioned the literal history of the fall, but imputedly introduced an imaginary dialogue between Eve and the Serpent, which gave great offence. So sensible was he of the imprudence of this dialogue, that when a new edition of the "Archeologia" was printing in Holland, he directed that it might be suppressed, and it was likewise omitted in the second edition of the year 1733. To this work was prefixed a dedication to king William, in which the character of that prince is drawn with great strength and elegance. The clergy were so offended by the publication of this work, that it is said to have occasioned his removal from the office of clerk of the clozet; and though he was favoured by king William, and patronized by archbishop Tillotson, the scepticism and heterodoxy charged on his writings prevented his preferment in the church, and particularly his advancement to the episcopal bench, and even to the see of Canterbury, which is said to have been in contemplation. He died September the 27th 1715, and was buried in the chapel of the Charter-house. After his death were published two posthumous treatises: one entitled "De Pide et Officinis Chrillianorum," being part of a larger design, and a valuable compend of Chrilian doctrine and duty, written with a liberal spirit, but not deemed altogether unexceptionable; and the other, entitled "De Statum Mortuorum et Refurgimentum;" to which is added, an appendix, "De Futura Judentorum Reflauratione." In this work the author has given greater scope to his fancy; attacked the doctrine of the eternity of hell-torments; and contended for the final salvation of the whole human race. But so apprehensive was the author left his notions concerning the temporary duration of future punishments should be made an ill ufe of by the bulk of mankind, that in a note to this work, he earnestly protested against its being translated. Dennis, however, in defiance of the author's protestation, not only published a translation of the treatise, but with a fidelity which can hardly be thought a sufficient excuse, for the enormity of it, inserted the note in English at the bottom of the page. Dr. Burnet was also the author of three small tracts in opposition to Mr. Locke, to which was published a reply by Mrs. Cockburne, contained in Dr. Birch's edition of that lady's works. Whatever opinion may be entertained of Dr. Burnet's speculations, philosophical and theological, his style, both in Latin and English, has been universally admired for its elegance and perspicuity. Biog. Brit. Brucker's Hist. Philo. by Enfield, vol. i. p. 484.

BURNET, Thomas, a Scotch physician, educated at Edinburgh, where he arrived at the honour of being fellow of the Royal College, and physician to the king, was author of "Theaurus Medicinae et Practicae ex predillihimorum Medicorum Observationibus collectis," 4to. London, 1672. It has been frequently reprinted, and contains many curious and useful observations. Also, "Hippocrates Contractus, in quo Hippocratis Opera omnia in brevem Epitomem reduci debentur," 8vo. Edinb. 1685. A convenient compendium, with perpetual references to the Opera Omnia. Haller. Bib. Med.

BURNEY, in Agriculture, the name of a plant that may be cultivated in some cafes with advantage, as a green winter food for different sorts of animals. As the providing of a large supply of green food for live flock, especially fattening sheep, eves, and lambs, and for milch cows, during the winter and early spring months, is an object of the greatest importance to the farmer, he should not neglect the culture of such plants as promise to be beneficial in this way; for as turnips, though well adapted to the purpose, cannot be preferred in severe winters, and clover, rye, and other grasses, are not ready sufficiently early: burnet, in such cases, should be attended to in this view. It is not, probably, however, so agreeable a food for animals as that of some other plants, but from its hardening several winters without injury, and being early planted, it may frequently be found highly useful. It succeeds on almost any sorts of soil but those of a strong clayey nature, and may be sown, like other seeds, with corn, and covered by means of a slight harrowing. The produce is in proportion to the goodness of the land. The quantity of feed must be commonly about a bushel to an acre. The author of the New Farmer's Calendar thinks it advantageous to mix burnet with ray-graffs and white clover, or with the latter alone, not only with the view of securing a good bottom, but to render the herbage more palatable to cattle in general, which he has been convinced, by ocular proof, has no great relish for burnet: they, however, become accustomed, he says, to its cucumber-flavour in time, and contented with it; so small inducement to which is, that they are commonly fed with it when no other grass is to be obtained. And Mr. Young observes, that it does well mixed with ray-grass, or cock's-foot, in the proportion of about three pecks of burnet to one of either of the other two. April is recommended as the proper season for sowing burnet with crops of barley or oats, covering it in by two harrowings. It may likewise be sown with buck-wheat in May, with great propriety.

In the raising of crops of this sort much depends upon having good well ripened feed of the true kind, which is always the best provided by collecting it from the best plants by the farmer himself.

When designed for sheep pasture, the best method of sowing this crop is probably that of broadcast over the surface; but in other cares the drill mode may be employed.
Of the falsity of this plant there is, the soil of these writers thinks, "no question; and even its medicinal virtues are confidently spoken of, particularly for sheep suspected of unfoamdumness. It is excellent winter-food for deer and rabbits. Several reasons are to be assigned for the ill success which has attended various attempts to cultivate this grass, as will appear in the following directions. Its chief use is as an early grass, and whilst young, and it must never be given to cattle when old and stalky, nor kept to that flake until intended for hay. In fact, burnet should always be reckoned out of fear when other grass can be had. It never ought to be fed but from January to the end of April; and upon lands proper for it, with judicious management, it will afford pasture even in January. It receives less injury from frosts than any other herbage, and will even grow in the winter months, provided the weather be not too severe. If shut up in April, it will mow at Midsummer; after which it must be reserved for feed until January or February, when, if the weather be favourable, it may be cut and carried to the flock, as in summer, and afterwards fed, but not too clofe, with sheep, until the time of shutting up again. It will produce upwards of a ton of hay per acre, and may be mowed again for feed; but if driven too hard, of course it will not produce so large a quantity of spring-feed as when mowed but once. The value of the feed upon an acre will be from five to ten pounds." But "granting the truth of this account of burnet," continues the same author, "it would be altogether superfluous to enlarge upon its value to a live-flock farmer; but such advantages will ever be looked for in vain upon a cold barren clay, or without the feed's being fresh and good, or without culture and manure, even on a proper soil. One of the first objects is, to be sure the feed be good, which is seldom the case, burnet being a grass very little cultivated, and in which he has been more than once foiled in his endeavours to raise a crop, from that circumstance. It may be further advantageously cultivated in drills, and treated precisely like lucerne, a method which he has lately adopted. It may be sown indifferently either in spring, summer, or autumn. It frequently happens that the crop is thin until the third year, but afterwards very luxuriant, fully covering the soil. It is further observed, that burnet is a native of this country, growing spontaneously in many places, particularly, as he has observed, upon Salisbury Plain, whence he is of opinion, an indication may be drawn of its proper soil: like lucerne, it defies drought in summer, which makes it valuable in another point of view. The feed has been warranted as good food for horses as corn; a consideration for those who may have the convenience of bruising it."

In the twenty-first volume of the Annals of Agriculture we have the following statement of the advantage derived from five roods of wet land, a strong tenacious loam, on a dry and clay-mixt bottom, cut off by ewes and lambs in the beginning of April, besides the straw, which was carefully laid up for winter provision for sheep, in wet weather, and the chaff for horses with their corn, which are reckoned together with a week's keep of fifty sheep, just taken out, as tantamount to the expense of mowing, dressing, and carting.

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The land on which burnet is sown should always be made perfectly fine before the feed is put in.

The true management of this crop, according to Mr. Young, is not to cut it down much in the autumn or winter, as the great peculiarity of the plant is to afford a full bite in March; and when you have it fix or eight inches high in October, more food will be found at that period, for it retains its leaves, as the winter frosts have but little effect upon it. "Some," says he, "who have found fault with it, and asserted that it is unprofitable, have fed off the after-grafs bare in the autumn, and let their sheep and cattle get into it in winter. It is then no wonder the burnet does not answer the character given of it by others, who have managed in a different manner."

The crops of this fort which are designed for feed, should be cut about the beginning of July, when care should be taken that it does not feed. It is the best practice to thresh it out in the field in the same manner as many other sorts of small feeds, the straw being made into hay. The produce in both feed and hay is very considerable. When intended for hay, it should be cut rather early in order to prevent its becoming too coarse.

Besides the modes of application, for which it has been already recommended, it is of vast utility as an early spring feed for sheep. The intelligent author of the Farmer's Calendar has observed that, "an acre of it, managed properly, will at this season yield much more food than an acre of clover and rye-grasses."

The importance of the feed and chaff of this plant, as pro- vender for horses, has been highly spoken of by some, but its advantages in this way have not been yet ascertained by any satisfactory set of experiments.

**Burnet, in Botany.** See Poterium and Sanguisorba.

**Burnet Saxifraga.** See Pimpinella.

**Burnet, Burnnet, or Burnetus, in Middle Age Writers,** denotes brown cloth made of dyed wool.

In which sense, the word stands contradistinguishing from brunnus, which was applied to the wool undyed.

**BURNLEY's Island, in Geography,** an island on the north-east coast of Siberia, in the Frozen Sea; about 3 leagues from the main.

**BURNHAM-Market,** a town of Norfolk, in England, has the latter part of its name to distinguish it from other Burnhams in the same county. It is situated near the coast, on the northern extremity of Norfolk. Here was formerly a small monastery of White Friars, or Carmelites, of which Robert Bale was prior. At Burnham-Deepdale are some faint marish, which are found to be very conducive to the fattening and preservation of sheep. On the high grounds along this coast are several tumuli, which some of our topographers attribute to the Saxons and Danes, who were then here during the piracies of the latter. Here is a small weekly market on Mondays, and the parish contains 169 houses, and 743 inhabitants. Burnham-market is 118 miles N. E. of London.

**BURNING,** the action of fire on some pabulum, or fuel, whereby the minute parts thereof are torn from each other, and put into a violent motion; and some of them af- fuming the nature of fire themselves, fly off in orbem, while the
the rest are dissipated in form of vapour, or reduced to ashes. See Combustion.

Burning is also applied to the action of divers things which are cold to the touch, or do not contain fire.

In this sense *aqua fortis* is said to burn cloth. There are certain gases which burn or sear the corn. Virgin observes that severe cold itself will *burn*, that is, have much the same effects on the parts of the body as fire itself, in causing gangrene.

**Burning, extraordinary cases of.**—We have instances of persons burnt by fire kindled within their own bodies. A woman at Paris, who used to drink brandy in excess, was one night reduced to ashes by a fire from within, all but her head and the ends of her fingers. Novum Lumen Phosphorum, accen. Amth. 1717.

Sigory Corn. Zangari, or, as others call her, Corn. Bandi, a lady aged 62, of an unblemished life, near Cenfna in Romagna, underwent the same fate in March, 1751. She had retired in the evening into her chamber, somewhat indisposed, and in the morning was found in the middle of the room, reduced to ashes, all except her face, skull, three fingers, and legs, which remained entire, with the shoes and stockings on. The ashes were light, and, on prefling between the fingers, vanished, leaving a grofs flinking moisture behind, with which the floor was smeared; the walls, and furniture of the room, being covered with a moist cinnarous foot, which had not only flained the linen in the chest, but had penetrated into the closet, as well as into the room over-head, the walls of which were moistened with the same viscous humour. Mem. de l'Ac. an. 1751. p. 1293.

Sig. Mondini, Bianchini, and Maffi, have written discourses express, to account for the cause of fo extraordinary an event: common fire it could not be, since this would have burnt the bed and the room; besides that it would have required many hours, and a large quantity of fuel, to reduce a human body to ashes; and, after all, a confiderable part of the bones would have been left entire, as they were anciently found after the fire before funeral fires. Sig. Mondini attributes this effect to lightning. A philosopher of Verona maintains, that such a confurication might have arisen from the inflammable matters wherewith the human body naturally abounds. Sig. Bianchini accounts for it from an internal fire, occasioned by spirit of wine camphorated, which the lady used by way of bath or lotion, when she found herself out of order. Maffi's system is a combination of the three last: he supposes it owing to lightning, but lightning generated in her own body; agreeable to his doctrine, which is, that lightning does not come from the clouds; but is always produced in the place where it is seen, and its effects perceived. The humours of her body, naturally inflammable enough, were become preternaturally so, by her purdud indisposition; and these, by perspiration, had enveloped her body with an atmosphere of the same kind, replete likewise with mineral matters, whereby its activity was heightened. She had probably riven in the night to ufe her lotion, and, by the friction of her hand, had helped to kindle the flame.

We have various relations of several other persons being burnt to death in this unaccountable manner; as Grace Peas, of Ipswich, aged 69, in 1744; who had previously drank a large quantity of spirituous liquor, and the trunk of whose body was found incinerated, resembling a heap of coals covered with white ashes, and emitting an extremely fetid odour and smoke; and Mary Clues, of Coventry, 52 years of age, in 1772, who had been much addicted to intoxication, so that fearfully a day past in which she did not drink at least a pint of rum or anniseed water. In her cafe no-
phenomenon, and with this view he advances several hypotheses, which it is needless to detail, as the facts are not sufficiently numerous nor well known to admit of establishing a satisfactory theory concerning the spontaneous combustion of human bodies. The author, however, appears to attribute it to a particular state of the fat produced by spirituous liquors; and he founds his opinion principally on the peculiar composition of the persons who have fallen victims to their accidents, and on the observation that has been made, that the parts which were not so fat, such as the extremities of the head, have escaped. And, lastly, he supports his theory by the well-known fact of the spontaneous combustion of a mixture of animal foot and linseed oil, which is a mixture similar to that of a fat body containing charcoal in a very minute state of division.

Burning is also a denomination given by physicians to divers disorders, on account of a fulmination of heat that attends them. In which sense we may a burning fever. See 

Causus.

Among the divers species of madness incident to dogs, one is called the burning madness. If a mare which has been covered, and the colt knit within her, be covered by another horse, he is said to burn her.

Burning is more particularly used for the herpes, or ignis faver, called erysipelas and orchitis.

Burning, among surgeons, denotes the application of an actual cautery, that is, a red-hot iron instrument, to the part affected; otherwise denominated scurvey. See Cautery.

Burning, in antiquity, was a practice much used by the Greeks, Romans, and northern nations; and still retained by many people in both Indies, with respect to their dead. See Burial.

In this sense, burning stands opposite to burying; though, after burning, the bones remaining, and ashes, have been usually collected into urns, and deposited in the earth.

Burning is not so ancient among the Greeks as interring; though we find it obtained in the time of the Trojan war; and it is reported by the choloia on Homer (IIiad. a.) to have been first introduced by Hercules. At and after the Trojan war, burning was generally practised by the Greeks; infomuch that when Lucian (De Leech.) enumerates the various methods used by different nations in the disposal of their dead, he expressly alludes burning to the Greeks, and interment to the Persians. Soerates in Plato's Phaedon, mentions both customs: and it appears, that some of them considered the custom of burning as cruel and inhuman; whence a poet, cited by Eunapius (II. a.) introduces a peron, excoriating against, and calling out upon Prometheus to hate to his affidence, and steal, if possible, from mortals the fire he had given them. Others ascribe the origin of this practice, which prevailed very anciently, not only in Asia, but in the western parts of the world, to respect and friendship for the deceased; whose ashes they deposited in urns, and preferred with great care, and interred with funeral honours. Potier, Arch. iv. cap. 6. tom. ii.

Kings were burnt in cloth made of the albeidos-flame, that their ashes might be preferred pure from any mixture with the fuel, and other matters thrown on the funeral pile. And the like usage is still retained for the princes in Tartary.

Among the Greeks, the body was placed upon the top of the pile, on which were also thrown divers animals, and even slaves and captives, besides unguents and perfumes. In the funeral of Patroclus, we find a number of sheep and oxen thrown in, then four horses, followed by two dogs, and lastly, by twelve Trojan prisoners. Hom. II. xxiii.

To this custom of slaughtering animals, and of condemning slaves or captives to the flames, on occasion of burning the dead, Virgil alludes (Ec. vi. 78. xvi. 92. xi. 197.) and also Cicero (Tusc. 38.). Afterwards gladiators, denominated gladiatorum (which see) were made to fight, as a substitute to human sacrifices. Thus also among the Gauls, slaves and clients were burnt on the piles of their mistresses (see C. xiv. Gall. vi. 172.), and among the Indians and Thracians, wives were burnt on the piles of their husbands; and if one man had several wives, there was sometimes a contest among them, which should be preferred, and the preference was decided by lot. Hirt. vii. 18. Serv. in Ann. v. 95. A similar practice has long existed among the Brahmins of India. See Brahmins. Thus among the Romans, friends testified their affection, as Plutarch to his patron (P. vi. 35.). Plautius to his wife Oeneilla, (Val. Max. iv. 6. 3.) Soldiers to Otho (Tacit. Hist. ii. 40.), and Mnæclus, a freedman, to Agrippina, (Tacit. Annal. xiv. 9.) The body of the deceased was covered with the fat of beasts, that it might the sooner be consumed, it being regarded as a singular blessing to be quickly reduced to ashes. For the same reason, when a number of bodies was arranged to be burnt on the same pile, they blended those of most temperament, and which were easily inflamed, with others: and to this purpose Plutarch (Sympos. l. iii. Quell. 4.) and Macrobius (Saturn. i. vii. c. 7.) observe, that to ten men it was customary to add one woman.

Soldiers usually had their arms burnt with them. The garments worn by the living were also thrown on the pile with other ornaments and presents; a piece of extravagance, which the Athenians carried to so great a length, that some of their law-givers were forced to restrain them, by severe penalties, from defrauding the living by their liberality to the dead.

The pile was set on fire by some of the nearest relations, who prayed and offered vows to the winds to assit the flames, that the body might be quickly consumed. While the body was burning, in the cafe of celebrated commanders, the soldiers and attendants expressed their respect for the dead by making a solemn procession three times round the pile, accompanying their motions with shouts and found of trumpet: and the friends of the deceased filled the pile, pouring forth libations of wine, and calling upon the deceased. When the flames ceased, the remains of the fire were extinguished with wine, and the bones and ashes were collected, sometimes washed with wine and anointed with oil, and sometimes enclosed with fat; and then deposited in urns of gold, silver, wood, stone, or earth, according to the condition of the deceased; those of persons of rank were adorned with flowers and garlands, and sometimes they were covered with cloth till they were lodged in the earth. Homer, i. xxiii. xxiv. Virgil, Ec. vi. Potter, ubi supra.

The Romans, at first, usually interred their dead. See Burial. But they adopted, at an early period, the custom of burning from the Greeks (see Plut. in Numa); and this custom is mentioned in the laws of Numa, and of the twelve tables (Cic. de leg. ii. 22.), but it did not become general, till about the end of the republic. Sylla was the first of the patrician band of the "Gen Cornelia," that was burnt: and he is supposed to have ordered it, lest any one should dig up his body, and dissipate his remains, as he did those of Marus. Pliny (H. N. l. viii. c. 54.).

Eunapius assigns two reasons for the prevalence of burning in Greece; the first, that bodies being thought to be unclean after the soul's departure, were to be purified by fire: and that the soul, or purer part, being separated by the flames, from the gross inactive matter, might take its flight.
flight to the heavenly mansions with more freedom. This latter opinion obtained so much, that the Indian philosophers had no patience to wait for burning till after death; they had recourse to it in their life-time; erected themselves piles for the purpose, to loosen their souls from confinement. Calanus, who followed Alexander out of India, finding himself indisposed, obtained that prince's leave to prevent the growth of his distemper, by committing himself to the flames; and Hercules, before his reception into heaven, was purified from the dregs of earth by the fame means. Quintil. De clar. x. Potter. ubi supra.

Plyni affirms us, that burning was brought into use among the Romans, on occasion of the cruel usage which the bodies of the dead Romans underwent in enemies' countries. But this must only be understood in regard to the common usage, since we find mention of burning as practised by some even in the earliest ages of Rome: Numa forbade his own body to be burned, commanding it to be laid entire in a stone coffin, which shews that the practice of burning was not then unknown at Rome. Under the emperors, as we learn from Tacitus (Annal. xvi. 9.), it became almost universal.

In some cases burning was expressly forbid, and looked upon as the highest impiety. Thus infants who died before the breeding of teeth, were entombed, unburnt; in the ground, in a particular place set apart for this use, called _lagunum._ The like was practised with regard to those who had been struck dead with lightning, who were never to be burnt again, but buried in the spot where they fell, called _bidental_, which see.

Some say, that burning was denied to suicides as a punishment.

The manner of burning among the Romans was not unlike that of the Greeks; the corpse being brought without the city, if they defied to burn it, was carried directly to the place appointed for that purpose; which, by the law of the twelve tables, was without the city: (Cic. de Leg. ii. 23.4.) according to the custom of other nations, as the Jews, (Matt. xxvii. 53. John, xix. 20 and 41.), the Athenians, (Cic. Fam. iv. 12. Liv. xxxi. 24.), and others, (Cic. Placec. xxi. Tufe. v. 23. Plut. in Arat. Strabo, l. x.)

If this place joined to the sepulchre, it was called _busum_, if separate from it, _ufrina_: the body, when brought thither, was laid on the _rogus_, a pile of wood prepared to burn it on, built in shape of an altar, but of different height, according to the quality of the deceased; and at the distance of 60 feet from any house. The wood used was commonly from such trees as contained most pitch or rosin; and if any other were used, they lighted for the more easy catching fire: round the pile they set cypress trees, probably to hinder the noisome smell of the corpse. The body was not placed on the bare pile, but on a couch or bed on which it lay. The eyes of the deceased were opened, (Philo. ii. 37.) to which Virgil is thought to allude, _Aen. iv. 214._ This done, the next of blood performed the ceremony of lighting the pile, which they did with a torch, turning the face all the while the other way, as if it were done with reluctance. During the ceremony, more especially at the funeral of an illustrious commander or emperor, decorations round the pile were performed, with figures inverted, and games were celebrated; after which, when the fire was extinguished, and the embers fanned with wine, came the _oijium_, or gathering the bones and ashes; after washing and anointing them, and repolluting them in urns; which were common to both the Greeks and Romans. Tibull. fab. i. Eleg. i. Virg. _Aen._ lib. vi. Kennet and Potter, lib. cit. It is commonly supposed the practice of burning ceased at Rome under the empire of the Antonines.

The practice, prevalent among the Hindoos, and of which some rare instances still occur, of widows burning themselves on the funeral piles of their deceased husbands, has been already mentioned; (see also the article BRACHMANS.) Mr. Colbrooke, in a paper on the duties of a faithful Hindoo widow, published in the 4th volume of the Asiatic Researches, has collected, from the ancient Sancrit books all the particulars that may serve to elucidate this extraordinary ritual.

"Having first bathed, the widow, dreseed in two clean garments, and holding some _cusa_ grafs, dips water from the palm of her hand. Bearing _cusa_ and _tila_, or leesam, on her hand, she looks towards the east or north, while the Brahmana utters the mystic word _Om_. Bowing to Naraayana, the next declares: "On this month, so named in such a _pasha_, on such f _tithi_, (I naming herself and her family), that I may meet Arunablhi, and reside in Sivate; that the years of my life may be as numerous as the hairs on the human body; that I may enjoy with my husband the felicity of heaven, and sanctify my paternal and maternal progenitors, and the ancehly of my husband's father; that raised by the _Aspara_, I may be happy with my lord, through the reigns of 14 _Indras_; that expiation be made for my husband's offences, whether he has killed a Brahmana, broken the ties of gratitude, or murdered his friend: thus I ascend my husband's burning pile. I call on you, ye guardians of the eight regions of the world! Sun and moon! Air, fire, earth, and water! My own soul! Yama! Day, night, and twilight! And thou, confluence, bear witnesses: I follow my husband's corpse on the funeral pile!" Having repeated the above declaration, called the _Sancalpa_, the walks thrice round the pile; and the Brahmana utters the following Mantras: "O! Let these women, not being widowed good wives, adorned with collyrium, holding clarified butter, confine themselves to the fire. Immortal, not childless, nor husbandless, excellent, let them pass into fire, whose original element is water." From the _Rigveda_:

"O! Let these wives, pure, beautiful, commit themselves to the fire with their husband's corpse," _A puránīca mantra._

With this benediction, and uttering the mystic _Namo Namah_, she ascends the flaming pile. While the preferred ceremonies are performed by the widow, the son, or other near kindred, of the deceased, applies the first torch with the forms directed for the funeral rites in the _Grihya_ (extracts or compilations from the sacred books); by which his tribe is governed. The last rites in this tragic scene, as we may call it, but not so deemed by those who practise them, are as follow: "Adorned with all jewels, decked with didmil and other ornamental ornaments, with the box of _minum_ in her hand, having made _pājā_ or adoration to the _Dvādāśa_, thus reflecting that _this life is nought; my lord and master to me was all_; she walks round the burning pile; the beftows jewels on the Brahmanas, comforts her relations, and gives her friends the attentions of civility; while calling the fun and elements to witners, the distributes _minum_ at pleasure; and having repeated the _Sancaalpas_, proceeds into the flames; there embracing the corpse, she abandons herself to the fire, calling _Satiya! Satiya! Satiya!_ The by-roaders throw butter and wood on the pile, which is reckoned an act transcendently meritorious, and even those who join in the procession are rewarded in heaven for every step of their march. Such liberal immunities are a proof, says Mr. Colbrooke, that burning could never be a frequent practice in the east.

The sacrifice above described is not absolutely enjoined; but it is recommended by all the allurements which enthusiasm can invent. There are, however, some cases of exemption. If the widow has an infant child; or if she is pregnant; and, among certain calls, if the husband dies in a distant...
diftant country, the ceremony is interdicted. But if the woman declines burning, for he is allowed the alternative, the muff thenceforth live a life of the most rigid austerity, and devote herself wholly to acts of piety and mortification. But through the alternative be allowed, the Hindu legislators have shown themselves disposed to encourage widows to burn themselves with their husband's corpse.

Mr. Campbell, during his stay at Tanjore, was a spectator of this horrid ceremony; performed by a young widow, not more than 16 years of age. He has minutely described all the circumstances attending it: for an account of which we refer the reader to his "Journey over Land to India," 410. 1795.

Burning alive, among the Romans, a punishment inflicted on defectors, betrayers of the public councils, incendiaries, comedians, and even Christians: it was called crematio.

The Jews had two ways of burning: one called burning of the body, performed with wood and faggots; the other, burning of the soul, combusio animae, performed by pouring scalding hot lead down their throats. The priest's daughter, who committed whoredom, he that lay with his own daughter, or grand-daughter, or his mother-in-law, were burnt alive. Phil. Trans. N° 230. Godw. Mofes & Aaron, lib. v. cap. 7.

Burning, Ufio, in Chemistry, is distinguished from calcining; as the former is performed in close vials, and terminates in charring, or reducing the body to a blackness; whereas the latter turns then white, being performed in the open air. It also differs from roasting, rofio, as, in burning, the fire is applied in contact with the body; in roasting, at a distance from it.

Burning, or Brenning, in our Ancient Customs, denotes an infectious local disease, obtained by intercourse with the lewd women who were kept in the public stews. See Stews.

Mr. William Beckett, a surgeon of great learning in this branch of history, has left us a curious account of the burning, which was published in a letter to Dr. James Douglas, A. D. 1718. Mr. Beckett has certainly failed in proving the antiquity of lues venera or syphillis; but the information contained in his letter is too much to our present purpose to be wholly omitted. We shall, however, resume this investigation when we describe the origin of the venereal disease: intending, in the article before us, to give only an extract from Mr. Beckett's interesting letter; viz.

"I shall begin with the first degree of this disease, and prove, from authentic evidences, it was anciently called the burning or burning; and that this word has been successively continued for many hundreds of years, to signify the same disease we now call a clap; and that it was not discontinued till that appellation first began to have its rite. The most likely method to accomplish my design, will be first to examine those records that relate to the plagues which were by authority allowed to be kept on the Bank-Side in Southwark, under the jurisdiction of the bishop of Winchester, and which were suppressed the 37th of Hen. VIII. For it is impossible but, if there were any such disease in being at that time, it must be pretty common among those lewd women who had a licence for entertaining their paramours, notwithstanding any rules or orders which might be established to prevent its increase: but if we shall find that there were orders established to prevent the spreading of such a disease, that persons might be secure from any contagious malady after their entertainment at those houses, (which were anciently 18 in number, but in the reign of Hen. VII. reduced to 12), we may then securely depend upon it, that it was the frequency of the disease that put those who had the authority under a necessity of making such rules and orders. For the same powers, who granted a liberty for keeping open such lewd houses, must find it their interest to secure, as much as possible, all persons from receiving any injury there; lest the frequency of such misfortunes should deter others from frequenting them, and so the original design of their institution cease from the entire linking of the revenues. Now I find that, as early as the year 1162, divers constitutions relating to the lordship of Winchester, (being also confirmed by the king), were to be kept for ever, according to the old customs that had been time out of mind. Among which these were some, viz. 1. No flwo-hole to take more for a woman's chamber in the week than 14d. 2. Not to keep open his doors upon holy days. 3. No single woman to take money to lie with any man, except she lie with him all night till the morning. 4. No flwo-hole to keep any woman that hath the perils of infirmity of burning. These and many more orders were to be strictly observed, or the offenders to be severely punished. Now we are assured, there is no other disease that can be communicated by carnal conversation with women, but that which is venereal, by reason that only is contagious; and it is evident the burning was certainly so: for, had it been nothing else but some simple ulceration, heat, or inflammation, there would have been no contagion; and that affecting only the woman, could not be communicated by any venereal congers, and so not infer a necessity of her being comprehended under the restraining article. These orders likewise prove the disease was much more ancient than the date above mentioned; because they were only a renewal of such as had been before established time out of mind.

"But to confirm this farther, I find that in the custody of the bishop of Winchester, whose palace was situated on the Bank-side, near the flews, was a book written upon vellum, the title of which runs thus: "Here begynneth the ordinances, rules, and customs, as well for the salvation of mannes life, as for to acheshow many mischiefes and inueniences that daily be likethere for to fall out, to be rightfully kept, and due execution of them to be done unto any person within the same." One of the articles begins thus: "De his qui cullidiont mulieres habentes nepahandam inimicatim." It goes on, item, "That no fles-hold keeper noo woman within his house, that hath any sicknes of brening, but that she be put out upon the payne of makeit a fine unto the lord of a hundred shillings." This is taken from the original manuscript, which was preserved in the bishop's court, supposed to be written about the year 1430. From these orders we may observe the frequency of the distemper at that time; which, with other inveniences, was daily like there for to fall out: and the greatnes of the penalty, as the value of money then was, that is laid on it, proves it was no trifling or insignificant thing.

"But the bare proof of there having been anciently such a disease as was called the burning, may be thought to be insufficient, unless we were perfectly aflured what it was, and how it was in those times describ'd: I shall therefore do it from an unquestionable authority, which is that of John Arden, esq.; who was one of the surgeons to king Richard I. and likewise to king Henry IV. In a curious manuscript of his upon vellum, he defines it to be, a certain inward heat and excoriatiion of the urethra; which description gives us a perfect idea of what we now call a clap; for frequent dipherings of those who laboured under that disease have made it evident, that their urethra is excoriated by the virulence of the matter they receive from the infected woman; and this excoriatiion or ulceration is not confined to the
of the vulva, or mouth of the glansule mucosa, as has been lately thought, but may equally arise from any part of the urethra not beyond the reach of the impelled malignant matter. The heat is more described, which these perils are formidable, as well now as in the remote, is a confection of the excoriated urethra; for the fillets contained in the urine must necessarily prick and irritate the nervous fibres, and excite a heat in those parts of the urethra which are divided of its natural membrane; which heat will always be observed to be more or less, as the fillets are diluted with a greater or less quantity of urine; a thing I have often observed in persons who have laboured under this infirmity in hot weather, when the perceptible matter being thrown off in greater quantities, the fillets bear a greater proportion to the quantity of urine, and thereby make its discharge at that time so much the more painful and troublesome.

Thus we see this very early and plain description of this disease among us to be entirely conformable to the late and most exact anatomical discoveries. Here is no tone of the teinelines deprived, according to Trajanus Petronius; no excoriation of the peridilate, according to Rondelous; no ulceration of the venereal vessels, according to Plutarchus; no spot of the disease in the vesicula femoritis, or peridilate, according to Bartholin; nor in those parts and the teinelines at the same time, according to our countryman Wharton, and others, who have falsely fixed the seat of this disease, and whose notions, in this respect, are now justly exploded; but a single and true description of it, and its situation, about 150 years before any of those gentlemen obliged the world with their learned labours.

Having, I hope, sufficiently made it appear, the burning was a disease very early among us, and given the description of it, I shall proceed to say something of the ancient method that was made use of to cure it. We are not to expect the measures our predecessors in those early times made use of, should be calculated for the removing any malignity in the walls of blood, or other juices, according to the practice in general cases at this time; because they looked upon the disease to be entirely local, and the whole of the cure to depend upon the removal of the symptoms. Hence it was they recommended such remedies as were accommodated to the taking off the inward heat of the part, and cure the excoriations or ulcerations of the urethra. The proceeds for the accomplishing of this, I shall set down from the before-mentioned John Arden, who wrote about the year 1580. His words are as follows: "Contra incendium. Item contra incendium virgum virilium internis: ex calore & excoriationes, a subtituis (i.e. invenio) levitas. Accepit lac milium, mollium nutrivitum, & parum zucarum, oleum viio & phialum; quibus commixtis per fiamam inflamatur, & si pravetix eunuculatus & amigdalarum melior erit medicina." There is no doubt but this remedy, being used to our patients at this time, would infallibly take off the inward heat of the part, and cure the excoriations or ulcerations of the urethra, by which means what is infected from thence would be entirely flopt: and this was all they expected from their medicines, for as much as they were entirely unacquainted with the nature of the disease; and did not in the least imagine, but if the symptoms that first attacked the part were removed, the patient was entirely cured.

I shall now, as a farther confirmation of what I have advanced, proceed to prove, that by this burning or burning is meant the venereal disease, by demonstrating that succeeding historians, physical and chirurgical writers, and others, have all along with us in England used the very same word to signify the venereal malady. In an old manuscript I have, written about the year 1590, is a receipt for "burning of the pynst, yet men elate ye apeagall," galle being an old English word for a running sore. They who know the etymology of the word gnst, cannot be ignorant of this.

And in another manuscript, written about 50 years after, is a receipt for burning in that part by a woman. Simon Fins, a zealous promoter of the reformation, in the reign of Henry VIII., in his supplication of beggars, entitled to the king, in 1536, says as follows: "Thou be they," speaking of the Romish priests, "that corrupt the whole generation of mankind in your realm; that catch the pockes of one woman and bear them to another; that be burnt with one woman and bear it to another; that catch the leprosy of one woman and bear it unto another." But to make this matter still more evident, I am to observe, that Andrew Boord, M. D. and Romish priest, in the same reign, in a book he wrote, entitled "The Brevisst of Health," printed in 1546, speaks very particularly of this sort of burning; one of his chapters begins thus: "The 16th chapter doth shew of burning of an harlot!" where his notion of communicating the burning is very particular. He adds, that if a man be burnt with an harlot, and do meddle with another woman within a day, he shall burn her: and as an immediate remedy against the burning, he recommends the washing the pudenda two or three times with white wine, or else with salt and water; but if the matter have continued long, to go to an expert surgeon for help. In his 82d chapter, he speaks of two sorts of burning, the one by fire, and the other by a woman, through carnal copulation, and refers the person that is burnt of a harlot to another chapter of his for advice, "if he get a dorser or two," so called from its protuberancy or, bunching out: for I find about that time the word bubo was mostly made use of to signify that sort of swelling which usually happens in pellisumal diseases.

From hence it appears, the burning by its consequents, was venereal. Since every day's experience makes it evident, that the ill treatment of the first symptoms of the decease, either by allurging medicines, or the removing them by cooling and healing the excoriated parts, will generally be attended with such swellings in the groin, which we rarely observe to happen from any other cause whatsoever.

I shall give a few more instances of this decease being called the burning, and conclude. In a manuscript I have of the vocation of John Bale to the bishoprick of Ossory in Ireland, written by himself, he speaks of Dr. Hugh Wellon, who was dean of Windor, in 1556, but deprived by cardinal Pole for adultery, as follows, "At this day is licentious Wellon, who is more practised in the art of brech-burning than all the whores of the flies." And again, speaking of the same person, he says, "He not long ago burnt a beggar in St. Doloph's parish." The same author says of him elsewhere, "He had been sore bitten with a Wineheller goose, and was not yet healed thereof," which was a common phrase for the pox at that time, because the flies were under the jurisdiction of the bishop of Wineheller. Mich. Wood, in his epistle before Stephen Gardiner's oration, "De vera Obedientia," printed at Rhoa, 1552, gives another evidence of the burning. And William Bullein, a physician in the reign of queen Elizabeth, in a book he published, called "The Bulwark of Defence, &c." printed in 1562, bringing in Sickneps demanding of Health what he should do with a decease called the "French Pockes," Health answers, "He would not that any should "fithe for this decease, or to be bold when he is bitten, to thynke thereby to be helped, but rather to efchewe the "caufe of thy sighing, and filthy rotten burning of "harlotes."
In the Sloaniom library, No. 4637, is another letter, (bound up in folio, with a great many different MSS.) from Mr. William Beckett to Sir Han Sloane, dated Feb. 4th 1735; wherein the principal facts mentioned in the letter to Dr. Douglass are recited. But we found nothing besides which is worthy of notice, except the following remark:—

"This burning or burning, (being, upon the diffuse of these words, called gomorrhia,) is what we now call the elop:—

which word I take to be of a modern usage; for, in all my enquiries, I cannot find that it was ever designed to signify the same thing it does now, before the reign of Charles I."

_Burning, in Law._ See _Arson, Branding, Treason, &c._

_Burning of diamonds_, is used among the jewellers for putting the diamonds into a fierce fire, in order to divest them of a yellow or brown colour.

_Burning on the forehead, Prato, instar_, was anciently the penalty of a calumniator. In the middle age, we find frequent instances of burning in the cheek; a punishment allotted to bondmen, or villains guilty of theft.

_Burning-beds._ See _Bush._

_Burning-glares, or burning-mirror_, a machine whereby the sun's rays are collected into a point; and by that means their force and effect extremely heightened, so as to burn objects placed therein.

_Burning-glares are of two kinds_: the first convex, called _lentes cangiia_, which transmit the rays of light, and in their passage refract, or incline them towards the axis; having the properties of _specula_ or mirrors; and acting according to the laws of refraction.

The second, which are the more usual, are concave; very improperly called burning-glares, being usually made of metal; these reflect the rays of light, and, in that reflection, incline them to a point in their axis; having the properties of _specula_ or mirrors; and acting according to the laws of reflection. See _Mirror and Reflection._

The first, or convex kind, authors suppose to have been unknown to the ancients; but the latter they are generally allowed to have been acquainted with. Their magnifying power is taken notice of both by Seneca and Pliny, and their burning power is mentioned in a treatise of Optics, ascribed to Euclid, theorem 31. It is probable that the Romans had a method of lighting their sacred fire by means of reflecting concave _specula_. But Porta, and many others, suppose, that the burning mirror of the ancients were made of metal, in the form of a section of a parabola, having the vertex cut off; it being the well-known property of this curve to reflect all rays that fall upon it parallel to the axis into the focus. Historians tell us, that Archimedes, by means of reflecting mirrors, burnt a whole fleet; and though the effect related be very improbable, yet it sufficiently proves, that such things were then known. The machines then used, nobody doubts, were metallic and concave, and had their focus by reflexion; it being agreed, that the ancients were acquainted with the refracted _foci_ of convex glazes.

Yet M. de la Hire has discovered even these in the Clouds of Aristophanes; where Strepheades tells Socrates of an expedition he had to pay his debts, by means of a round transparent stone or glafs, used in lighting of fires, by which he intended to melt the bond; which in those days was written on wax. The glafs here used to light the fire, and melt the wax, M. de la Hire observes, could not be concave; since a reflected _focus_ coming from below upwards, would have been exceedingly improper for that purpose: and the old scholiast of Aristophanes confirms the sentiment. Pliny makes mention of globes of glafs and crystal, which being exposed to the sun, burnt the clothes and flesh on people's backs; and Lactantius adds, that a glafs sphere, full of water, and held in the sun, lighted the fire even in the coldest weather; which incontrovertibly proves the effects of convex glazes.

Indeed, there is some difficulty in conceiving how they should know such _glases_ burnt, without knowing they were magnified; which it is granted they did not, till towards the close of the thirteenth century, when spectacles were thought of. For as to those palleages in Plautus, which seem to intimate the knowledge of spectacles, M. de la Hire observes, they do not prove any such thing; and he solves this, by observing, that their burning glases being spheres, either fold, or full of water, their _foci_ would be one fourth of their diameter distant from them; if then their diameter were supposed half a foot, which is the molt we can allow, an object must be at the distance of an inch and an half, in order to its being perceived magnified; those at greater distances do not appear greater, but only more confused, through the glas than out of it. It is no wonder, therefore, the magnifying property of convex glases was unknown, and their burning one known; it is more wonderful there should be 300 years between the invention of spectacles and telecopes.

Every concave mirror, or _speculum_, collects the rays diffused through its whole concavity, after reflection, into a point or focus; and is therefore a burning mirror.

Hence, as the focus is there where the rays are the most closely contracted, if in a segment of a spheric, its breadth must not subtend an arch above eighteen degrees: if it be a segment of a smaller sphere, its breadth may be thirty degrees; which is verified by experiment. As the surface of a mirror, which is a segment of a larger sphere, receives more rays than another of a less, if the latitude of each subtend an arch of eighteen degrees; or even more or less, provided it be equal; the effects of the greater mirror will be greater than those of the less.

And, as the _focus_ is contained between the fourth and fifth parts of the diameter, mirrors that are segments of greater spheres burn at a greater distance than those which are segments of a smaller.

Since, lastly, the burning depends on the union of the rays, and the union of the rays on the concave spherical figure; it is no wonder, that even wooden mirrors, gilt, or those prepared of alabaster, _&c._ covered with gold; nay, even that those made of paper, and covered with straw, should be found to burn.

Among the ancients, the burning mirrors of Archimedes and Proclus are eminent; by one of which, the Roman ships besieging Byzantium, under the command of Marcellus, according to the relation of Zonaras, Tzetzes, Galen, Euclitthus, Anthimius, _&c._ and by the other, the navy of Vitalian besieging Byzantium, according to the same Zonaras, were burnt to allies.

Many have questioned the fact recorded by several historians concerning the surprising effects of Archimedes's burning mirrors; and they have principally urged the impossibility of producing such effects by means of concave _specula_, the focal distance of which must have been much too small for the purpose. Des Carteres, particularly, discredited the story, as fabulous, on this account; but Kircher made many experiments with a view of vindicating its credibility. Apprehending that the concave _specula_ of the ancients were sections of a parabola, he began with combining several of this figure; but, failing of success in this way, he tried the effect of a number of plane mirrors; and with five mirrors of the same size, placed in a frame, he contrived to throw the rays
rays reflected from them to the same place, at the distance of more than a hundred feet; and by their means he produced such a degree of heat, as led him to conclude that, by increasing their number, he could have set fire to inflammable substances at a greater distance. He likewise made a voyage to Syracuse, in company with his pupil Schottius, in order to examine the place of the supposed transmutation; and they were both of opinion that the galleys of Marcellus could not have been more than thirty paces from Archimedes. M. Buffon, though ignorant of the particular testimonies of ancient writers, relative to the invention of Archimedes, and of the attempts of Kircher above mentioned, has more lately, by a similar contrivance, sufficiently evinced the practicability of the operation.

Dr. Wolfe, in the year 1768, after having given an account of some parabolic mirrors, constructed by M. Hoe- fen of Dresden, offers a conjecture, that those of Archimedes might be of this kind, since it is not difficult to describe a parabola, whose parameter is 2000 feet; and that rays reflected from such a speculum might be received by a lens, after having been brought to a focus, and transmitted parallel to any distance: but he was not apprized, that Kepler and Descartes had shewn, that no rays could be conveyed parallel to one another, except those which proceeded from the same points in the sun's disk. Dutens du Miroir Ardent d'Archimede. Paris, 1755. Phil. Trans. vol. xviii. p. 621, &c. Ibid. vol. ix. p. 8.

Among the moderns, the most remarkable burning mirrors are those of Magine, twenty inches in diameter; of Septula of Milan, which was near three feet and a half in diameter, and which burnt at the distance of fifteen or sixteen paces; of Villette, and Thérimhaufen, the new complex one of M. Buffon, that of Trudaine, and that of Parker.

Villette, a French artist at Lyons, made a large mirror, which was bought by Tassigny, and presented to the king of Peria; a second, bought by the king of Denmark; a third, presented by the French king to the Royal Academy; a fourth has been in England, where it was publicly exhibited. — The effects of this mirror, as found by Dr. Harris and Dr. Defaguller, are, that a silver spexence is melted in 7" and 3"; a halfpenny of gold 1" in 16", and running with a hole in 34". Tin melts in 3", cast iron in 16", flate in 3"; a foible shell calcines in 7"; a piece of Pompey's Pillar in Alexandria vitrifies in the black part in 50", in the white in 54"; copper one in 8"; bone calcines in 4", and vitrifies in 33". An emerald melts into a substance like a turquois stone; a diamond weighing four grains, loses 2 of its weight; the albello vitrifies; as all other bodies will do, if kept long enough in the focus; but when once vitrified, the mirror can produce no farther effect. — This mirror is forty-seven inches wide; and is ground to a sphere of seventy-six inches radius; so that its focus is about thirty-eight inches from the vertex. Its substance is a composition of tin, copper, and tin-gla.s. Phil. Trans. vol. iv. p. 198.

M. Thérimhaufen's reflecting mirror deserves next to be mentioned. The following things are noted of it in the Acta Eruditum, for 1697, p. 52.

1. Green wood takes fire inflammantly, so that a strong wind cannot extinguish it.
2. Water boils immediately, and eggs in it are presently edible.
3. A mixture of tin and lead, three inches thick, drops presently, and iron or steel-plate becomes red hot presently, and a little after burns into holes.
4. Things not capable of melting, as bones, bricks, &c. become soon red hot, like iron.
5. Slate becomes first white, then a black gla.s.
6. Tiles are converted into a yellow gla.s, and shells into a blackish yellow one.
7. A purific-fo.me emitted from a Vulcano, melts into white gla.s; and, A piece of crucible also vitrifies in eight minutes.
8. Bones are soon turned into an opaque gla.s, and earth into a black one. It is made of copper, and its substance is not above double the thickness of the back of a knife; this was about 4 French feet in diameter, and it burnt at the distance of twelve feet.

Every lens, whether convex, plano-convex, or convexo-convex, collects the sun's rays, dispersed over its convexity, into a point by refraction; and is therefore a burning glass. The most considerable of this kind, known, is that made by M. de Téchinhausen: the diameters of his lenses are three and four feet; the focus at the distance of twelve feet, and its diameter an inch and a half. To make the focus more vivid, the rays are collected a second time by a second lens parallel to the first; and fitted in that place where the diameter of the cone of rays formed by the first lens is equal to the diameter of the second; so that it receives them all: and the focus from an inch and a half, is contracted into a space of eight lines, and its force increased proportionally. This was purchased by the duke of Orleans, who presented it to the French Academy. Its weight was 160 pounds.

Its effects, among others, as related in the Acta Erudit. Liptae, are, that it lights hard woods, even moistened with water, into a flame, instantly; that water, in a little vessel, begins to boil presently; all metals are melted; brick, pumice-stone, delict woods, and the albeLlos fume, are turned into gla.s; sulphur, pitch, &c. melted under water; the ashes of vegetables, woods, and other matters, tranmuted into glas; in a word, every thing applied to its focus, is either melted, turned into cals, or into smoke; and the colours of jewels, and all other bodies, metals alone excepted, are changed by it. He observes, that it succeeds best when the matter applied is laid on a hard charcoal, well burnt.

Though the force of the solar rays be here found to stupendous, yet the rays of the full moon, collected by the same burning gla.s, do not exhibit the least increase of heat.

Wolius tells us, that an artist of Dresden made burning mirrors of wood, bigger than those of M. Thérimhaufen or Villette, which had effects at least equal to any of them. — Traberus teaches how to make burning mirrors of leaf gold, viz. by turning a concave, laying its inside equally with pitch, and covering that with square pieces of the gold, two or three fingers broad, fastening them on, if need be, by fire. He adds, that very large mirrors may be made, of thirty, forty, or more concave pieces, artfully joined in a turned wooden dish or feutre; the effects of which will not be much less than if the surface was continuous. — Zahnius adds farther, that Newman, an engineer at Vienna, 1699, made a mirror of plate-board, covered within with straw glued to it; by which all kinds of metals, &c. were readily melted.

Sir Isaac Newton's burning mirror consisted of seven concave gla.ses, each of which was eleven inches and a half in diameter, and so disposed as to have one common focus: six of them were placed round the seventh and contiguous to it, in such a manner as to form the segment of a sphere, whose subtense is about thirty-four inches and a half; the focus is about twenty-two inches and a half distant, and about an inch in diameter. This speculum vitrified brick or tile in one second, and in about half a minute melted gold. M. Zeller, not long since, made some improvement of this instrument; and formed panes of plain gla.s into the necessary degree of curvature, by heating them so hot on a dish made of metal, that they could all assume the same form. M. Buffon has constructed furnaces for converting plain into concave mirrors; the mirrors are exposed to a degree of heat sufficient to soften the gla.s, in conformance of which it conforms itself to the spherical figure of the mould on which it is placed. This method is subject to many difficulties and
accident; however, out of twenty-four mirrors treated thus, M. Buffon preserved three; two of which are thirty-seven inches in diameter, and the other forty-fix inches. The last was tin-sheeted, and presented to the French king; and is represented by the maker, as the most powerful burning mirror in Europe, and yet the moon's light reflected from the concave surface, on a thermometer placed at the focus, produced no sensible dilatation of the included fluid. M. Buffon has also made attempts for constructing convex lenses of great power, by fixing two of the above mentioned concave glasses together, and filling the cavity between them with water; one of the glasses broke in the trial; but others have since undertaken to construct these water lenses. He has likewise suggested another improvement in the construction of burning glasses, confining it in a contrivance for diminishing the thickness of the middle or central part of the lens, from three inches to one inch; whereby he proposes to prevent the diminution of light occasioned by its passing through the middle part of a lens of large diameter, and short focus, which must be proportionably thick in that part. This new kind of lens is composed of three parts ground to the same radius, or of two circular zones, or bands, surrounding a central or middle part. He computes that the heat in the focus of a lens of this kind, three feet in diameter, will be about four times greater than that produced by any burning glass; yet known.

But the most considerable improvement which M. Buffon has introduced into the optical apparatus is his machine, consisting of a number of mirrors; whereby he seems to have revived the secret of Archimedes, and to have vindicated the credit of history in this point. In the year 1747 he constructed a machine, with a hundred and forty plane mirrors, each about four inches long, and three broad; these are fixed at about a quarter of an inch distance from each other, upon a large wooden frame of about six feet square. Each of these has three moveable ferses, which are so contrived, that the mirror can be inclined to any angle, and in any direction that meets the sun; and by this means, the solar image of each mirror is made to coincide with all the rest. The experiment was first tried with twenty-four mirrors, which readily set on fire a combustible matter, prepared of pitch and tow, and laid on a deal board, at the distance of sixty-fix French feet. He then farther pursu ed the attempt, and put together a kind of polyhedron, consisting of 168 pieces of plane looking glasses, each being fix inches square; and by means of this frame boards of beech-wood were set on fire, at the distance of a hundred and fifty feet, in the month of March, and a silver plate was melted at the distance of sixty feet. This machine, beside other advantages, may be easily moved, so as to burn downwards or horizontally; and it burns either in its distant focus, or in any nearer interval, which our common burning-glasses cannot do, because their focus is wholly fixed and determinate. This machine, in the next stage of its improvement, contained three hundred and sixty plane mirrors, each eight inches long, and six broad, mounted on a frame eight feet high, and seven feet broad. With twelve of these mirrors, light combustible matters were kindled at the distance of twenty feet; at the same distance, a large tin vessel was melted with forty-five of them, and a thin piece of silver with a hundred and seventeen. When the whole machine was employed, all the metals and metallic minerals were melted at the distance of twenty-five, and even of forty feet. Wood was kindled in a clear flask, at the distance of two hundred and ten feet. The focus, at the distance of fifty feet, is about seven inches broad; and at the distance of two hundred and forty feet, it becomes two feet in diameter. Mr. Buffon afterwards constructed a machine, which contained four hundred mirrors, each half a foot square, with which he could melt lead and tin at the distance of a hundred and a forty feet. Phil. Trans. ab. vol. x. p. 104. &c. M. de Buffon Histoire Naturelle. &c. Supplém. vol. i. Montucla, Histoire des Mathématiques, vol. i. p. 532.

There is no solid substance that reflects the efficacy of modern burning-glasses. Melfs, Macquer and Bayrre have succeeded in melting small portions of platinum, by means of a concave glass, twenty two inches in diameter, and of twenty-eight inches focus; though this metal is not fusible by the strongest fires that can be excited in furnaces, or fusible by any chemical apparatus. Yet it was long ago observed by the Academicians del Cimento, that spirit of wine could not be fixed by any burning glass which they used; and notwithstanding the great improvement which these optical instruments have since received, M. Nollet has not been able, by the most powerful burning mirrors, to set fire to any inflammable liquors whatever.

The principle upon which M. Trudaine constructed his burning lens was that of combining two circular segments of glasses spheres, and applying them with their concave faces towards each other, to as to form a lenticular cavity of four feet in diameter. The cavity was filled with spirits of wine; of which it contained 1,50 French pints. The focus of parallel rays in this instrument was 10 feet 12 inches and one line distant from the centre of the glass; and originally contracted to a circle of about eight lines in diameter, by the interposition of a second and smaller lens of solid glass. The maker presented it to the Royal Academy of Sciences, but it was soon afterwards accidentally broken. The expense of its construction is said to have amounted to 10001. sterling; and yet its powers were not very great; for, according to Mr. Magellan, it required 60 minutes for converting the particles of platinum, which Mr. Parker's lens could do in less than a tenth part of the time. This seems indeed to be the most powerful burning lens that has yet been constructed. Mr. Parker, of Fleet-street, London, was induced, at an expense of upwards of 700L., to contrive and at length to complete a large transparent lens, that would serve the purpose of furnishing and vitrifying such substances as reflect the fires of ordinary furnaces, and more especially of applying heat in vacuo, and in other circumstances in which it cannot be applied by any other means. After directing his attention for several years to this object, and performing a great variety of experiments in the preparation of it, he at last succeeded in the construction of a lens, of flint glasses, three feet in diameter, which, when fixed in its frame, exposes a surface two feet 3 inches in the clear; without any other material imperfection besides a disfigurement of one of the edges by a piece of the scoria of the mould, which unfortunately found its way into its substance. This lens was double convex, both sides of which were a portion of a sphere of 18 feet radius. From the papers and drawings, with which the ingenious inventor has obligingly furnished us, we are able to give the following accurate account of this lens, illustrated by appropriate engravings. The elevation of this lens is exhibited in Plate II. Optics. fig. 1. The large lens is A, whose diameter in the frame is 3 feet, and in the clear 2 feet 8 inches; its thickness at the centre is 3 inches; its focal distance is 6 feet 8 inches; and the diameter of the burning focus 1 inch; its weight was 212 pounds. B is a second lens, whose diameter in the frame is 16 inches, and which shews in the clear 13 inches; the thickness in the centre is 1 inch; length of the focus 29 inches, and its diameter 3 of an inch;
its weight 21 pounds. When the two above lenses are compounded together, the length of the focus is 5 feet 3 inches, and its diameter half an inch. C is a truncated cone, composed of 12 ribs of wood, at the larger end of which is fixed the great lens A, and at the smaller extremity the lesser lens B; near the smaller end is also fixed a rack, D, passing through the pillar L, movable by a pinion turning in the fixed pillar, by means of the handle E, and thus giving a vertical motion to the machine. F is a bar of wood, fixed between the two lower ribs of the cone at G; having, within a chafed mortice in which it moves, an apparatus, H, with the iron plate I, fixed to it; and as this part turns on a socket, K, a method is thus obtained of placing the matter under experiment so as it may be acted upon by the focal rays in the most direct and powerful manner. L L is a strong mahogany frame, moving on castors, M M, and immediately under the table, N N, are three friction wheels, by which the machine moves horizontally. O is a strong iron bow, in which the lens and the cone hang.

In fig. 2, a section of the large lens is seen: a, the large lens, marked A in the former figure; b b is the frame which contains the lens; c the small lens, marked B in the preceding figure; d d is the frame which contains this lens; e e is the truncated cone, marked C in the other figure; f is the bar, on which the apparatus, marked F in the former figure, moves; g is the iron plate, denoted by I in the fixed figure; h the cone of rays, formed by the refraction of the great lens a, and falling on the lens c; and i is the cone of rays formed by the refraction of the lens c. In fig. 3, L L exhibits the front view of the great lens; L L the frame containing the large lens; and L M the strong iron bow in which the lens hangs.

It is difficult to form an accurate estimate of the burning power of this lens; inasmuch as it is next to impossible to discover what should be deducted for the loss of power, in consequence of the impediments that the glases of which it was made might occasion, as well as the four reflections (i.e. two reflections on the immersion, and two more on the emission of the rays of heat), by way of diminution; but we will endeavour to appreciate it after making a full allowance for these deductions, which must necessarily result from every means of concentrating the solar rays, and which must be considered to be as the fraction of an engine, of which nature they really partake.

The solar rays received on a circular surface of 2 feet 8½ inches, when concentrated within the diameter of one inch, will be 1056.25 times its intensity, or this number of times greater than the heat of the sun as felt on the surface of the earth. We will suppose that as the heat of the air, in ordinary summer weather, is 65°, and in sultry weather is 75°, the average of which is 70°, and that we take this degree as the average effect, the accumulated power of the lens, on the supposition of an equal effect over the whole surface of the focus, will be equal to 73938°. BURNING-GLASS.

It must be recollected by those who have had an opportunity of examining the effects of this lens, that the external part of the focal light was less intense than that part which was near the centre of it; or, rather, that the effect was very much accumulated in the centre: but as it is possible that the refraction of the light and of the caloric fluid may not take place in the same angles, we think it safe to consider it as of an uniform effect, and after deducting one-fourth part thereof as a compensation, there remains 55454°, as the expression of its power.

As the application of the second lens reduced the diameter of the focus to half an inch, the effect, without allowing for the reduction of its power, would be equal to 221816°, but deducting one-fourth for the second transcription, there remains 166352° as the expression of its power.

Supposing that the rays of the sun emanated from a point, the focus of the lens would also be a point; for the rays transmitted through one edge of the lens would meet those transmitted through the other edge, so that the focus would be without parts, or a mathematical point; but as the sun is known to move at 31° 32" during the apogee, and 32° 38" during the perigee, the focus must necessarily be 0.7105 parts of an inch diameter at Midsummer, and 0.7594 at Christmas. The length of the luminous axis at Midsummer must, from the same cause, be 3.428 inches, and, at the opposite period, 3.557; because the dimension of the focus is actually dependent on the apparent diameter of the sun, the semi-diameter being to be added to increase the measure of the converging rays on each of the opposite sides, the tangent of which is the semi-diameter of the focus; and by the same means the length of the axis is discovered, adding to and subtracting from the converging angle, by which means the points at which they meet on the axis are discovered. These two points disclose the commencement of the luminous appearance thereon.

The variation between the above calculated diameter of the focus and what it really was, points out the errors in the instrument, which must arise from one of two causes, or from both, viz. that the axis of the two fids are not coincident, or that they are not opposite to each other; should the difference have been occasioned by either, the focus would have been elliptical; but as this was not ascertained, it can only be said that a very small deviation in each would have occasioned this enlargement of the focus; and possibly they might have acted in contrary ways, which would have made it nearly circular.

But as this lens was exported many years ago, we are not able to determine whether the focus stated to have been one inch diameter was ascertained by its burning effect, or by the diameter of the focal rays: if by the diameter of the rays, the enlargement thereof must have resulted from the above causes; but if from its burning power, it tends rather to establish the theory of Dr. Herschell, that the rays of caloric are less refrangible than those of light, and that the true burning focus lies rather beyond the apparent focus.

We are far from thinking the above statement an extravagant supposition, when it is recollected, that all the experiments on which we ground our opinion were made with a total exposure of the substances to the action of the circumambient air; and had the property of this fluid, as to its conducting power of heat, been then well understood, so as to have prevented the diminution of the effect, we are well satisfied the result would have justified our conclusion.

The ingenious experiments of Mr. Wedgwood, and the extensive use of his pyrometer, for the admeasurement of heat required to melt metals, are now too well understood to require any eulogium in this place; it is sufficient to state that he estimates the heat required to melt the following substances to be as follows:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Fahrenheit or by Wedg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red heat visible in day light</td>
<td>1070°</td>
</tr>
<tr>
<td>Fine gold</td>
<td>5837</td>
</tr>
<tr>
<td>Welding heat of iron greatest</td>
<td>13427</td>
</tr>
<tr>
<td>Cold iron melts</td>
<td>17077</td>
</tr>
<tr>
<td>Greatest heat of his furnace</td>
<td>21877</td>
</tr>
<tr>
<td>Extremity of the scale of his pyrometer</td>
<td>32277</td>
</tr>
</tbody>
</table>

The power of the lens estimated by this pyrometer will be found to be 1956°, and supposing the hottest furnace to be 240°, the focal heat thereof is 5.2975 times greater.
In justification of the opinion we have given, we now proceed to furnish a selected enumeration of the experiments which were made with this justly celebrated instrument, under the inspection of Major Gardner, brother to the admiral Lord Gardner, together with some gentlemen of the Royal Society.

<table>
<thead>
<tr>
<th>Substances fused, with their Weight and Time of Fusion</th>
<th>Weight in Grains</th>
<th>Time in Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold, pure,</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Silver, do.</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Copper, do.</td>
<td>33</td>
<td>20</td>
</tr>
<tr>
<td>Platinum, do.</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Nickell,</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Bar Iron, a Cube,</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Cast Iron, a Cube,</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Steel, a Cube,</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>Scoria of Wrought Iron,</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Cank, or Terra Ponderosa,</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>A Topaz, or Chrysolite,</td>
<td>3</td>
<td>45</td>
</tr>
<tr>
<td>An Oriental Emerald,</td>
<td>2</td>
<td>23</td>
</tr>
<tr>
<td>Crystal Pebble,</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Topaz,</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>Flint Oriental,</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Rough Cornelian,</td>
<td>7</td>
<td>75</td>
</tr>
<tr>
<td>Jasper,</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>Onyx,</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Garnet,</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Whitie Rhomboidal Spar</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Zeolites,</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>Roten Stone,</td>
<td>10</td>
<td>80</td>
</tr>
<tr>
<td>Common Slate</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Albitos,</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Common Lime Stone,</td>
<td>10</td>
<td>55</td>
</tr>
<tr>
<td>Pumice Stone,</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Lava,</td>
<td>10</td>
<td>7</td>
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<tr>
<td>Volcanic Clay,</td>
<td>10</td>
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<tr>
<td>Cornish Moor Stone,</td>
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Iron scoria, and the turnings of iron. The scoria appears to have been melted in much less time than the turnings, a result that might have been expected to have been directly the reverse; but some allowance must be made for the probable difference in the effects or intensities of the solar rays at the periods at which the experiments were made.

Calk of iron from vitriolic acid, precipitated by mild fixed alkali, weighing 5 grains before exposure, weighed afterwards 51 grains; which indicates an increase of weight by an absorption of phlogiston.

Regulus of zinc began almost instantly to flow, and was nearly evaporated; the remains were magnetic.

Regulus of cobalt was completely evaporated in 57°.

Regulus of bitumen was nearly evaporated when exposed on a charcoal reit; but on black lead it began to fuse in 2°, and very soon after passed into a state of complete fusion; it lost only half a grain in weight from an exposure of 180°; on a bone-ash reit it fused in 3°, and in 150° it was reduced to 7/16 grains.

Regulus of antimony: 33 grains were fused in 5° on charcoal, and after 195° there remained only 11 grains; but when exposed on a charcoal reit for the same time, there remained afterwards 28 grains, which showed a magnetic affection.

Fine kearths from the cannon foundery evaporated very fast during 120°, and in 30° more the remainder began to flow into globules, which, on being cold, were attracted by the magnet. This experiment of itself supports the claim of this instrument to a vast superiority over the heat of any furnace hitherto known.

Crystal pebble of North America: 5 grains exposed contracted in 15°, perfectly glazed in 135°, chafed in 150°, and when taken out appeared semi-diaphanous, of a white colour.

Several of the semi-crystalline substances, exposed to the focal heat, exhibited symptoms of fusion: such as the agate, oriental flint, cornelian, and jasper; but as the probability is that these substances were not capable of complete vitrification, it is enough that they were rendered externally of a glassy form.

Garnet completely fused on black lead in 135°, lost 4 of a grain, became darker in colour, and was attracted by the magnet.

Ten cut garnets taken from a bracelet, began to run the one into the other, in a few seconds, and at last formed into one globular garnet.

The clay used by Mr. Wedgwood to make his pyrometric test, run in a few seconds into a stone enamal. Seven other kinds of clay, sent by Mr. Wedgwood were all vitrified.

Several experiments were made on limetone, some of which were vitrified, but all of which were agglutinated; it is, however, suspected that some extraneous substance must have been intermixed. A globule produced from one of the specimens, on being put into the mouth, flew into a thousand pieces, and flew away in the best of glass. On being cut by a lapidary, it was found to be so hard as to serve as a diamond to write on glass.

Several specimens of lavas, and other volcanic productions, were exposed to the focus of the lens, all of which yielded to its power. This furnace of nature, the volcano, is supposed to be hotter than any furnace constructed by the
art of man, and as none of these sublunacies have been found perfectly vitrified, the conclusion is, that the volcano must exceed them in its power.

The following observation made by Major Gardner, he applies to all the experiments made by him during a period of many months: we will use his own words:

"That no sublunacy can remain any length of time in its state unfused or vitrified, unless it be externally white or diaphanous; but in a number of instances even these properties do not prevent their being fused or vitrified: when they do, it appears, in the first case, that the rays were in part reflected (perhaps before they came in contact with the intensely white sublunacy); and from this circumstance the sun's rays are prevented from exciting their full power upon them."

Some experiments were made in the year 1802, with Mr. Parker's lens, with the view of ascertaining whether the moon communicated any heat to the earth, in common with the reflected light from which we derive so much advantage.

This experiment was attended by Dr. Joseph Banks, with several members of the Royal Society, together with Dr. Crawford, who provided the most sensible thermometers; but after applying them to the luminous focus, so far from a perceptible increase of heat, it was thought there was perceived rather a diminution thereof; but this supposition did not lead them to a fair investigation of the fact.

Since this period some experiments have been made that enshrine the power of communicating cold by reflection; but as this fact has not yet been explained sufficiently with the present received theory, we shall contain ourselves with taking notice of the experiment made by M. Pitot. Two concave mirrors being placed at the distance of 103 feet from each other, a very delicate air thermometer was put into one of the foci, and a glass matrix full of snow in the other. The thermometer sunk several degrees, and rose again when the matrix was removed. When nitric acid was poured upon the snow (which increased the cold) the thermometer sunk 5° or 6° lower. Here cold seems to have been emitted by the snow, and reflected by the mirrors to the thermometer, which it thought could not happen unless cold were a sublunacy.

It has been found that upon an admixture of equal quantities of snow, which is always at 32°, and of water heated to 172°, the result is that the compound only retains the lowest heat of 32°, so that 140° of heat or caloric disappears.

Much has been said respecting the point or degree at which the thermometer should indicate the presence of heat. The experiments of Dr. Crawford seem to place it at 126° below the present 0. Mr. Kirwan places it at 104°. Mefers. Lavoisier and La Place at 273°; and by a mixture of four parts of sulphuric acid with three parts of water, it seems that it should be placed at 580° below 0.

Experiments of this kind may be made ad infinitum, and in time it may possibly be ascertained that cold is a real sublunacy; but for the purpose of getting an answer to the present question, we will accommodate the scale of Fahrenheit, by adding 15° thereto so as to make the 0 correspond with the caloric imbibed by snow or ice before it can melt. The average temperature of the air, mentioned under the article Burning Glasses, of 70° will be now considered as 78 of the new scale.

The superlatives of spherical bodies are to each other as the squares of their respective diameters. The diameter of the moon is considered to be 2180 miles, and its mean distance from the earth 240,000, from which it follows, on the supposition that all the solar rays received by the moon were reflected back, and that the earth was absolutely without heat, that the effect of this reflection would be found to be 0.0257 of a degree (for 140.600 x 2°: 178°: \[2180°: 0.0257\]), which multiplied into 105 degrees, and this sum increased four times for the increased power of the second lens, would give 4.5124° as the heat of the focus; 92.257° below the present 0, or 124.287° below the freezing point.

This diffusion is interesting in another point of view, for this calculation ascertains that the light afforded by the moon, when compared with that by the sun, abstracting all impediments in both cases, is only as 1 to 48.85.

A subscription was proposed for raising the sum of 700 guineas, towards indemnifying the charges of the inventor, and retaining the very curious and useful machine above described in our own country; but from the failure of the subscription, and some other concurring circumstances, Mr. Parker was induced to dispose of it to Captain Mackintosh, who accompanied lord Macartney in the embassy to that country; and it was left, much to the regret of philosophers in Europe, at Pekin; where it remains in the hands of persons, who most probably know neither its value nor use.

BURNING OF HEATH, in Agriculture, a practice employed in some districts for clearing ground covered with this sublunacy, in order to procure grags and herbage for cattle. The most proper time for this business is towards the latter end of the summer, when the plants are withered: care should be taken that the fire extends no farther than is intended, by clearing away the grass, and other dry vegetable matters, on the side which is to be preferred from the flames, to a distance sufficient to prevent all communication. The grass and other sublunacies which are cut down, being spread upon the part intended to be burnt, may serve for kindling the fire after they are become dry, and in a late fit for combustion.

For this operation a fair calm day should likewise be chosen; when, by kindling the fire on the side the wind blows from, the danger of its spreading too extensively is more fully guarded against. If, however, notwithstanding these precautions it should spread to places intended to be preferred, and where there is no water, the most effectual way of stopping the progress of it is to dig a trench; as, by throwing up the earth on the side where the fire is, the grass is covered and the flames thereby hindered from extending farther.

BURNING OF LIME, the process of converting hard or strong calcarous sublunacies into lime by means of fire. See Lime-burning.

BURNING OF STRAW, a wasteful dissipating practice employed in some districts for the purpose of converting it into ashes for manuring land. It is observed by Mr. Young, in the Report of Lincolnshire, that "the most singular practice he ever met with in manuring sublunacies is that of spreading dry straw on the land and burning it. At lord Yarborough's, he says, he first heard of this custom. His lordship's tenant, Mr. Richardson, a very good and intelligent farmer, gave him the account, having long practised it with success. The quantity is about five tons an acre. At Great Lamar he straw-burnt a piece in the middle of a field preparing for turnips, and on each side of it manured with ten loads an acre of yard-dung, and the burnt part was visibly superior in the crop. In another piece the same comparative trial was made, in 1765, for turnips; and now, in 1797, the barley is equally superior. On another farm he had at Wold-Newton he did it for turnips, then barley, and
and the burnish was better in all these crops than yard-dung. Burning goose in this manner results in great crops, but the expense is too high. He is clearly of opinion, that it is the warmth from the fire that has the effect, and not the ashes; for the quantity is nothing, and would blow away at one blast. It is proper to obviate, say he, that they do not use straw used in feeding cattle at more than 48, or 50, a ton. Mr. Mulhis of Lumber is of the same opinion, and thinks four tons are enough; and never that it will fail for turnips. For straw burning husbandry the reporter found again at Belfely. Mr. Lloyd, who, he should observe, is an excellent farmer, thinks that it takes for two acres, which will last longer in its effect, and burn the dung which the straw would make, and in general last longer than common dunging. Keeping much cattle, he cannot practise it, but highly approves it. In discourse at Harecastle ordinary on burning straw, the practice, he says, was much reprobated; yet an instance was produced that seemed to make it in favour of it. Mr. Elmirall, of Hazeldrop, burnt twelve acres of coke-feed straw on eight acres of the twelve, and the effect was very great, and seen even for twenty years. He sowed wheat on it, four bushels an acre, and had five quarters: the same upon which nothing was burnt, much the better land, yet the crops on the burnt part were by that mode equal to the rest. But in another similar experiment for turnips, Mr. Rancliff observed, the result and the effect lasted only for one crop. Mr. Kirkham, who was in company, gave it as his opinion, that, as cattle would not eat it, but, it might be beneficial to collect and flake that, and, before turnip sowing, burn it. The reverend Mr. Allington of Swainop has burnt on the land for turnips, the long-straw dung from the surface of the farm yard, and has had better turnips there than where the dung was laid. This has been the cafe in two experiments he has made." On flint adhesive foil it is probable some advantage may be produced by the action of the fire in this mode, but in other cafes it must be a waitful practice. The nature of the land on which these trials were made is not, however, mentioned.

"About Tashwell," the reporter adds, "there is no burning straw upon land; Mr. Clough, Mr. Hyde, and Mr. Pearson, fecured the idea of such a thing being common. It has, however, been tried there, for Mr. Oldham of Elkingdon did it, after ploughing for turnips, with long straw from the yard, and he succeeded well for the most part." BURNING of Land. See PAVING and BURNING.

BURNING of Metals. This metal, with metal, is either performed by fire, or by corrosive falls; which latter is also denominated CEMENTATION.

The first preparation of metal ores is by fusion, or burning, whereby to dispose them for fussion. This is usually performed by exposing them, without addition, to a naked fire; sometimes fixed alkalis and absorbents are added, to hinder the evolution of the metallic particks. Some hold burning in the flute or glebe most advantageous; others burning in the meal. Phil. Trans. No. 169. The baker metals, tin and lead, may be burnt like plants to ashes. For gold and silver, the cafe is otherwise.

BURNING MOUNTAIN. See VOLCANO, EARTHQUAKE, MOUNTAIN, &c. See also Etna, Hecla, Vesuvius, &c.


Travellers into Italy describe a burning spot of ground at Firenzula, in the Apennines, out of which a cracking flame continually arises, yet without any clief for it to issue out at. Maffi supposes the flames which the place yields, to be a kind of native "phosphorus ardens," which take fire on their coming in contact with the air.

BURNING, among Painters. Several of the painters' colours require burning, to fix them for use, as lamp-black, um- ber, ivory, &c.

The burning, or rather drying, of lamp-black, is per- formed by letting it over the fire in an iron ladle, or crucible, till no smoke arises from it. To burnumber, they put it in large lamps into a naked fire, where it is left till thoroughly red-hot. Ivory must be burnt, to make a black, in two crucibles, heated, covered with coals.

BURNING, in Enamel Painting. See ENAMELLING.

Burning is also an operation in Pharmacy. Simples are frequently burnt in earthen-vehils, either to reduce them to ashes, as in the preparation of vegetable salts, or, in order to dry them, that they may be more commodiously pulverized, as is practiced in regard of hartthorn, &c.

BURNING Phosphorus. See PHOSPHORUS.

Burning plant. See EUPHORIA.

Burning spring, in Natural History. See SPRING.

Burning Zone, in Geography. See TORRID Zone.

BURNISHED gold or silver, denotes those metals laid on any work or leaves, and afterwards passed over with a burnisher to heighten their lustré.

BURNISHER. See BURNISHING.

BURNISHING, the operation of giving an uniform and brilliant surface to a variety of substances by friction, with a polished hard instrument usually called a burnisher.

The modes of pollute in use amongst artificians may, perhaps, be all reduced to four;—the apertures of a rough surface may be removed by cutting off the protuberances, as in planing; by abrading them, as in filing and polishing; by obtunding them with the hammer, as in planing; and by accomplishing the same purpose in the manner now under our consideration.

It will be readily perceived, that the two latter operations can only be performed on such substances as possess a certain degree of malleability or ductility; those which are brittle, as gilts or hardened steel, will necessarily be incapable of being burnished.

To speak of all the descriptions of artificains who use this procés would be to enumerate almost the whole of those who work on metals. The instruments with which it is performed are also as various as the surfaces to be subjected to their action; we shall therefore only speak of such as are used for plane surfaces. The burnisher is a rod generally a piece of very hard steel from or four inches long, and about one eighth of an inch thick, with a somewhat convex edge, not much unlike that of the steel which is commonly used for striking fire, all the angles of it being smoothly rounded off, so that the longitudinal section of the part to be applied to the subiect is a semi-ellipse of great eccentricity, the edge of which is nearly semi-cylindrical. It is applied in different ways according to the nature and extent of its use in the workshop. The manufacturers of ornaments for flowers, who use a great number of burnished plates of soft steel, frequently insert it into the lower extremity of a wooden pole, which is suspended over the work-bench, from one end of a strong wooden spring fixed horizontally in a frame attached to the ceiling, and prelving downwards, so that the workman has only to pull it backwards and forwards horizontally at right angles to its own plane, over the surface of the plate, its pressure being produced, or, at least, assisted by the action of the spring. Some workers in metal apply the burnisher by attaching it to the under side of a lever, which has a handle at one end, and is hooked at the other
other into a fixed flap; others fix it obliquely into one end of a staff, the other end of which is curved like a faythe, and paffes over the right shoulder of the workman, who is by this means enabled to exert a confiderable degree of prejudice; and others again merely infet it into a handle, or a short bar with a handle at each end, and apply it in the fame manner as a common rapf or file, or in fome inltances as if fliding with a black lead-pencil. In whichever of these modes the burnisher is applied, the direction of its motion fhould be always rectilinear, parallel to itself, and at right angies with the edge of the instrument.

There is also another method of applying the burnisher, which is by keeping the instrument itself at ref, without the surface, subjected to its action, is turned in a lathe. The process is thus conducted by the branchier, ironmonger's founder, pewterer, and indeed all the artificers who employ that engine.

There are two precautions necessary to be observed in this operation: the one is to keep the semi-cylindrical edge of the instrument as highly polished as possible by frequently touching it on a piece of buff leather, rubbed with finely prepared crocus martis, and the other to keep the surface to be burnished constantly lubricated during the friction, with some liquid of a smooth confiftence, fuch as milk, oil, or a solution of soap, the latter of which seems to be the fittest, and molten generally approved of for this purpose. If this be neglected the surface is apt to ripple up before the instrument, and the ridges thus produced being laminated, by the continued friction, into very thin flakes or flakes, the work becomes defaced by dark coloured spots and flecks, which are frequently iridifcent like those on the wings of a butterfly, and the procfs confequently fails.

Bookbinders burnifh the edges of their books by rubbing them with a dog's tooth. Gold and silver are burnifhed with a wolf's tooth, a dog's tooth, or the blood flone, or by tripol, a piece of white wood, emery, and the like.

Deer are said to burnifh their heads, when rubbing off a white downy skin from their horns against a tree, they thrust them, as is faid, into a reddifh earth, to give them a new colour and lustre.

BURNLEY, in Geography, a market town of Lancashire, in England, is feated on a peninsula of land between the rivers Calder and Brown, which unite their streams a little north of the town. Its advantageous situation on these streams has occasioned several manufactories to be established here. Amongst these are fome cotton machines, fulling mills, corn mills, and a mill for grinding dyers' wood. The church of this place, a large handsome structure, is under Whalley, and though only a curacy is confidered a very valuable living. Some lead mines have been disco vered in the vicinify of the town, and various Roman coins have been found. Burnley is a great thoroughfare. The country around it abounds with pit-coal, and qvatitles of free-flone, flag-flone and flate, are obtained from quarries in this neighbourhood. Here are a grammar school, and two dissenting meeting-houses; a market on Mondays, and five annual fairs. In the vicinify of the town is a very fine seat, lately belonging to Charles Townley, efq., who had amafed the fmcft and moft valuable collection of ancient sculpture in this country. Burnley is 211 miles N. of London; and it contains 687 houses, and 3395 inhabitants. Whitaker's History of Whalley, &c. 4to.

BURNNOSE, an article of drift among the Arab Bedouens and Kebyle, in Barbary; cor respond ing to our cloak, and worn by them over their lykes. This forms a confiderable branch of their woolen manufactory. It is woven in one piece, and rehumbles in its shape the garment of the little god Telephorus, being framed about the neck, with a cape, or Hippocrates' sleeve (for a cover to the head), and wide below like a cloak. Some of them are likewise fringed round the bottom, like Parthenop's and Trajan's garment upon the lofty reliefs of Constantine's arch. The burnmoe, without the cape, seems to refer to the Roman pallium; and with it to the borduncula, referred to by Martial, l. xiv. 17.

"Gallicia Santonicio velit in bordunculae." BURNS, Robert, in History, was the son of a farmer near the town of Ayr, the capital of Ayrshire, in Scotland, where he was born on the 29th of January, 1759. The family had all of them been farmers in the north of Scotland, but the misfortunes of the poet's father had occasioned him to accept the situation of gardener to a gentleman of small fortune in the neighbourhood of Ayr, in which employment he continued for the first fix or seven years of the poet's life. The father was a man of observation and experience, as well as of strict integrity, and wished to keep his children more under his own eye, than was convenient with the service in which he was engaged. For this purpose, he ventured on a small farm on his master's estate, and joined with some others of his neighbours to provide a schoolmaster for their children. Robert Burns was principally distinguished at these early years, by a retentive memory, a flubbornness of disposition, frequently attendant on genius, and an enthusiastic piety. At the age of ten or eleven, he was not only well grounded in English grammar, but somewhat more than usual of a critical scholar. He was principally indebted to a credulous and ignorant old woman in the family, for furnishing him with those legendary and supernatural tales, which fed a poetical imagination with its richest repast. The first regular compositions in which he took pleasure were, The Vision of Mirza, and a hymn of Addilion, which came within the compass of his school studies. The Life of Hannibal, and the History of Sir William Wallace were the first books he read as a volunteer, and they gave him more pleasure than any he read afterwards. Nor was polemical divinity without its attractions, but he soon raised the cry of heresy against himself, and it pursu'd him through life. He gained at this time a flight knowledge of French, and received afterwards some leflons in practical mathematics; but his studies were rendered irregular by the necessity of hard labour, owing to the advanced age of his father, and the ill success of his farm. Robert was the eldest of seven children, and a very dexterous ploughman. But his father's matter died, and they fall into the hands of a factor, against whose influence and capacity they had to contend, till the sixteenth year of the poet, who now began first to exercise his functions as such, in consequence of his first amorous attachment to his borduncula partner of fourteen. Soon afterwards his father removed to a larger farm, on which the family subsisted comfortably for four years; when they became embarrassed by litigation with their landlord, and William Burns was only saved from a prison by the intervention of a mortal disease. During these four years, his reading was confined to Salmon's and Guthrie's Geographical Grammars, the Spectator, Pope's Works, some of Shakespeare's Plays, Tull and Dickson on Agriculture, the Pantheon, Locke's Essay on the Human Understanding, Stack-hou's History of the Bible, Justice's British Gardener's Directory, Boyle's Lectures, Allan Ramsay's Works, Taylor's Scripture Doctrine of Original Sin, A Select Collection of English Songs, which he carried with him when he drove his cart, and Hervey's Meditations. He was very awkward in his person and manner, a disadvantage which
he fought to remedy by attending a country dancing-master, in opposition to his father's direct negative. This produced an unfortunate disagreement between them, to which he contributed in a great measure the subsequent diffipation of his habits.

Thus did his life pass till his twenty-third year; bodily labour was his employment, and a succession of love adventures his amusement. The bias of his mind was strengthened by the addition of Trittram Shandy and The Man of Feeling to his library. He now engaged with a flax-drawer in a neighbouring town; but the shop took fire, while the partners were carousing, and the poet was left without a fixence. After his father's death, he joined his second brother in a farm, but without success. During this period, he formed a connection with a young woman, the consequences of which induced him to give her an acknowledgment of private marriage. Her parents, however, finding his situation so desperate, prevailed with her to relinquish it. He was driven to the verge of ruin, and threatened with a goal, when he engaged to go to Jamaica. But as his compositions had become popular in the neighbourhood, he resolved to publish his poems before he quitted his native country. The first edition, in 1756, produced him nearly twenty pounds for the expenses of his voyage; he had taken the first farewell of his friends, when a letter from Dr. Blacklock, advising a second edition, carried him to Edinburgh, and opened at once new prospects to his poetical ambition and new temptations to those venal propensities, which deprived his genius, and fixed a pernicious influence over his future life.

His genius and talents introduced him into the circles both of rank and literature; and his powers of conversation are said to have increased the applause bestowed on his writings. Professor Dugald Stewart observes, in a letter to Dr. Currie, "that all the faculties of his mind were equally vigorous; and his predilection for poetry was rather the result of his own enthusiastic and impassioned temper, than of a genius exclusively adapted to that species of composition. From his conversation I should have pronounced him fitted to excel in whatever walk of ambition he had chosen."

He had gained five hundred pounds by the sale of his poems, with part of which he entered on the farm of Ellifland, on the banks of the river Nith, six miles above Dumfries, in the year 1785. He had previously been placed on the list of candidates for the office of exciseman; and unfortunately for his health and his morals, he afterwards obtained the appointment. Before he hired the farm, he had become the husband of the young woman mentioned above, who had been turned out of doors by her father. He was now become a parent in his turn; in the cares of his undertaking the happiness of his family was involved, and he determined, after pondering seriously on the part to abandon the society and dissipation of which he had been enamoured. It is greatly to be regretted that he found it so much easier to form than to execute his project of reformation. At the end of the year 1791, he found it necessary to resign his farm into his landlord's hands, and remove to a small house at Dumfries. Here he was betrayed into an approbation of the French revolution, more ardent than was consistent with the opinions of his superiors. He was therefore subjected to the animadversion of the board, but retained his situation by promising more guarded behaviour, on the intervention of a friend. "Among the inhabitants of Dumfries," says Dr. Currie, "there were never wanting persons to share his social pleasures; to lead or accompany him to the tavern; to partake in the wildest follies of his wit, to witnæfs the strength and degradation of his genius." Thus beset where he was most vulnerable, it is a subject of greater sorrow than surprize, that he should have fallen into those irregularities, which terminated his short career in July 1796, in the thirty-eighth year of his age. Yet, lowered as was his character, and pernicious as were his habits to his corporeal frame, he retained his vigour of mind and imagination to the last, and never, in his greatest distresses, lost sight of honour in his pecuniary transfections, or bartered his independence to supply his necessities.

With respect to his social character, it is exactly fixed by the lively remark of a Scotch lady, that no man's conversation ever carried her so completely off her feet as that of Burns.

The character of his poetical compositions is strongly marked with the impression of his birth and station. He took no pains either to elevate his imagery, or polish his dialect. He adopted the simplicity of nature for his guide, and subjected himself to the dream of native sensibility, in his weary pilgrimage through an obscure and unhappy life. He is always interesting; but never splendid. His fancy is drawn on the spot, and his characters and incidents bear the stamp of biographical and historical truth, rather than of poetical fiction. His humour is rich, his pathos is natural, and he sometimes refers to the sublime; but his superiority is most decisively established in the descriptive. His poetical character cannot be better concluded than in the words of Dr. Currie. "To describe the comparative merit of Burns would be no easy task. Many persons, afterwards distinguished in literature, have been born in as humble a situation of life; but it would be difficult to find any other who, while earning his subsistence by daily labour, has written verses which have attracted and retained universal attention, and which are likely to give the author a permanent and distinguished place among the followers of the muse. If he is deficient in grace, he is distinguished for ease, as well as energy; and these are indications of the higher order of genius. The father of epic poetry exhibits one of his heroes as excelling in strength, another in swiftness; to form his perfect warrior, these attributes are combined. Every species of intellectual superiority admits perhaps of a similar arrangement. One writer excels in force, another in ease; he is superior to both, in whom both these qualities are united. The force of Burns lies in the powers of his understanding, and in the sensibility of his heart; and these will be found to infuse the living principle into all the works of genius which seem defined to immortality. His sensibility had an uncommon range. He was alive to every spæcies of emotion. He is one of the few poets that can be mentioned, who have at once excelled in humour, in tenderness, and in sublimity; a praise unknown to the ancients, and which in modern times is only due to Ariosto, to Shakspeare, and perhaps to Voltaire. To compare the writings of the Scotch poet with the works of these giants in literature, might appear preposterous; yet it may be asserted, that he has disfigured the foot of Hercules. Now near he might have approached them by proper culture, with lengthened years, and under happier auspices, it is not for us to calculate. But while we run over the melancholy story of his life, it is impossible not to heave a sigh at the Reality of his fortune; and as we survey the records of his mind, it is easy to see, that out of such materials have been reared the fairest and most honourable monuments of genius."

In his correspondance there are much good sense, and an admirable turn of expression. The late Dr. Robertson thought Burns's prose equal to his poetical compositions; and the public in general are nearly of the same opinion. His critical powers were more matured, and his taste more correct.
correct than can at all be accounted for by his opportunities; and the circumstance must be ascribed to the happy temperament of a mind, which could by sympathy assimilate itself to that state of refinement and cultivation, usually the result of scholastic instruction, or the elegant pursuits of polite life. On the whole, the character of Burns is equally interesting, as a noble specimen of untutored nature, forcing itself to a level with the higher and more favoured clatres of its species; and instructive as a warning, that the advantages of the conflict, however successful, are irretrievably lost, unless discretion is called in to secure and perpetuate the trophies won by genius. Persons of keen sensibility are exposed to peculiar dangers; and poets are perhaps of all others the description of men, who contribute most to the refined pleasures of society, and are least successful in appropriating to themselves their own individual share of personal happiness or public esteem. Their occupations are calculated to increase the peculiarities, rather than to strengthen the governing powers of their minds; their sensibility is indulged at the expense of their peace, and the pride of genius is footed by a contempt of the ordinary rules, which restrain the passions of common men. To caue these faults we attribute, and on such grounds of palliation must we excuse, the morbid melancholy, the facetious propensities, and the intemperate habits of Burns. When these are forgotten, or only remembered through the favourable medium of candid biography, his poems, with all the disadvantages of an obscure dialect, will be recited by his rustic countrymen, as long as the simplicity of their feelings remains unsoftened, and read with admiration by the critic, as long as the laws of poetry and criticism are suffered to accord with the dictates of nature.

BURNT, in speaking of medicines, imports as much as imperfectly calcined. See Calcination.

Burnt bodies are generally dry and astringent. The other medicinal qualities belonging to bodies are frequently destroyed, at least impaired, by the burning.

BURNT-Clay, in Agriculture, such clay as has undergone a process of calcination by means of fire. In this process, it is supposed by Dr. Darwin that oxygen is combined in large proportions either with the clay itself or the metallic particles which it may contain, and on this account probably becomes useful as a manure. This benefit may be accomplished by means of clamps or kilns, or simply by piling up heaps of clay loosely together, with a little dry brushwood, or other similar combustible materials in the middle of which the fire may be applied. In this way much manure may be easily procured, where the materials abound.

Calcined clay, as a manure, is probably most proper for clove compost soils, as it opens and renders them more porous, and thereby disposes such lands to part with their vegetable nourishment more readily.

It is also supposed, by the author we have just mentioned, that calcined clay, as it exils in soft bricks, has a power of decomposing marine salt, as he once observed in a cellar, where beef had been long salted on one side of a nine-inch wall, the wooden salting-tub for which was attached to it; a great efflorescence having appeared on the other side of the wall, which he believed to be soffile alkali, or natron. If this idea be just, says he, the soft bricks from old buildings, or clays so far purposely burnt, may in this manner be serviceable to vegetation, by separating the soffile alkali from the sea-salt, washed from decomposing animal and vegetable substancess, which, by converting carbon into an hepur carbonis, as lime is supposed to do, might render it soluble in water, and capable of being absorbed by the lymphatic vessels of the roots of plants. And, continues he, if clay, calcined to a certain degree, and thus united with oxygen, posessed the power of decomposing marine salt, there is reason to believe, when it is more slowly united with oxygen by its exposure to the atmosphere by the spade or plough, that it may possess the same property, and that this may have given rise to the very contradictory reports concerning the use of sea-salt in agriculture, as it may probably be of great advantage to clayey soils, but perhaps not so to other soils. See Clay.

BURNT-grain, a vegetable disease frequently met with in the ears of grain, but which is probably not yet well understood; the characteristic marks of which, according to some, are, that the plants which produce burnt ears are strong and vigorous; that the infected ears are not at first distinguishable from those that are healthy; but, when they are past their bloom, they appear of a deep green colour, approaching to blue; they afterwards become whitish, and are then easily known. "As this change of colour is effected by the sun, when a number of white ears have been suddenly perceived in looking over a wheat field, the sun's heat has been often thought to cause this distemper, or a fog preceding that heat. And though all the ears produced from one grain are commonly infected, yet found ears are met with on plants that have produced others which were infected. Some ears have even been observed, part of which only were vitiated; and, finally, some grains enclosing partly a white flour, the remainder black dust."

It has been farther remarked, that, in burnt ears, the chaff, or outward coat, is commonly found, with this single difference, that, when the ears are nearly ripe, it appears more withered and dry than in the healthy ears. The bulk which immediately enclosed the grain is not destroyed, but has confidence enough for the grain to preserve nearly its natural form, with a whitish look; and the burnt grains are shorter, rounder, and lighter, than such as are uninfeeted; they are sometimes larger and sometimes smaller. The furrow which runs the length of a grain of wheat is sometimes totally effaced, at others visible; the pits at the extremity of the grains are dried up, but the bud of a burnt grain is not visible. Till the blooming season, there is very little difference between the diseased grains and those which are healthy; they are only a little more swelled: but, in the blooming season, the inflected ears assume a bluish colour; the chaff is more or less speckled with small white spots; the grains are of a deeper green, and larger than in the natural state, and, as long as they preserve that colour, they adhere strongly to the chaff. The distemper, it is said, has often attacked very young ears, while yet enclosed in the sheath. The flaming on the sides of the grain are then dried up and sickly; the embryo in part takes the deep green colour above-mentioned; the infected ears have not the confidence of those that are healthy. In the same proportion as the distemper advances, the chaff becomes dry and whitish. The grains have some degree of firmness. On opening them, which may easily be done with the nail, there appears an anctious, dark-brown, blinding substance. The dust of burnt grain has also some cohesion or tenacity. By others it is, however, supposed to originate from insects; in which view we have the following remedies proposed on the authority of experiment in the seventh volume of the Bath papers. The trials were made in the middle of a twenty-acre close, the refuse of which was sown with the same kind of wheat, and treated in the same mode as Nos. I. and II. and was equally as clean, and the crops have been so ever since. The writer's mode of medicating his wheat was as in No. II.

"No. I. Sowed five drills with Mr. Cooke's machine,
with wheat treated agreeable to Mr. Middleton's re.

No. I. Sowed five drills with wheat wetted with old urine, three quarters to a bushel, and turned about with a throwel till all the urine was imbibed, then plenty of quick-

line was added on the third, and turned over and over with a throwel, and left it in a heap till the next morning.

No. II. Sowed five drills with wheat strewed two

hours in a strong lye, made of wood-ashes and lime, and laid on the barn floor to dry.

No. IV. Sowed with five drills of the same kind of

wheat.

The result was as follows:

Nos. I. and II. Scarcely a burnt car to be found in

them.

No. III. About a twentieth part burnt.

No. IV. Near a fourth burnt.

No. V. Picked ten good corns out of an ear, the re-

mainder were burnt; planted them in the garden; fixed them with a foot, which produced seventy-two ears, one root of which only was burnt; consequently the opinion that the good corns in a burnt car produce burns again is fallacious, oth-

erwise the whole must have been burnt.

The above experiments seem to prove, says the writer, that "wetting wheat with old urine, and drying it with

line, is a preventative," and he conceives that an infect

by depositing its egg, eggs, or seed, on the corn, when

growing, is the cause of burnt. Supposing this to be the

case, "the wetting the corn with brine, urine, or strong

lye, would of course destroy none of the eggs or seeds, or

even an animalule, and the lye, by its corrosive quality,

annihilate the remainder;" but "that any of the eggs, &c. remain on the corn animal, there may be here and

there a burn in the crop." But, "if on the other hand the

infest should deposit its egg, eggs, or seed, in the earth, it

is possible the brine, urine, and lime, wherewith the corn

is as it were coated when sowed, may be unpleasing to the
delicate taste of the little animal, and prevent its wound-

ing the tubes of the plant." Farther and more accurate ex-

periments are, however, still wanting to fully elucidate

and ascertain the nature and kind modes of preventing this vege-
table malady. See Smut.

Burnt island, in Geography, an island in Christmas Sound, at the southern extremity of South America.—Also, an island near the southern coast of Newfoundland; 15 miles E.S.E. from Cape Ray. N. lat. 47° 30'. W. long. 58° 50'.

Burnt islands, a cluster of islands in the Indian ocean, situate on the coast of Malabar, W.N.W. from Goa. N. lat. 15° 50'. E. long. 73° 30'.

Burnt planet. A planet is said to be burnt, combustus, when it is in conjunction, or nearly so, with the sun. Thus

Saturn is said to be burnt when not above five degrees distant from the sun; Jupiter when six, &c. Planets in this

situation are suppos'd by astrologers to be much weakened or enfeebled in their influences.

Burnt way, combula via, among Astrologers, that part of the zodiac from the beginning of Libra to the middle of

Scorpio; or, according to others, from the middle of Libra to the end of Scorpio, comprehending 45 degrees; a space

suppos'd very unfortunate, and in which the planets are much enfeebled in their virtues, especially the moon. Vital


Burnt, See Wine.

Burnt-coat island, in Geography. See Penobscot bay.

Burntisland, or Burnt-island, is a parish, and royal burgh, and sea-port town in Fifeshire, Scot-

land. Mr. Pennant describes it as "the best harbour on

the coast, formed by a rocky isle, close out with piers." This

harbour, though capacious, and of great depth, at high tides, is dry at low water. The town is situated on the banks of the Firth of Forth, upon a peninsula which is screened on

the north, by an amphithreatrical range of hills. It is nearly

opposite to Leith, from which it is distant six miles, and

about nine miles N.W. from Edinburgh. From the remains

of fortified walls, and entrenchments, it appears that this

place has been garrisoned, and was probably first fortified

by the French, when allied to the queen regent during the

troubles of 1660. Cromwell believed it during his usurpa-

tion, and forced the inhabitants to capitulate, though not

without certain conditions which ultimately proved

advantageous to the town; for, among other stipulations, he agreed to repair the streets and harbour, and build the quay. In

1715, the town was surprized and taken by the rebels, who

boldly opposed all resistance, and passed part of their troops

from this place over to the opposite shore. Before the

union, the trade of Burntisland was very considerable, and

confined principally in the exportation of corn and malt

to England, but this trade has declined for many years, and

it is not till very lately that the town has felt the benefit of

its revival. At present here are a sugar-house, a vitriol work,

and a distillery, besides ship building which is carried on to

some extent. The town is governed by 21 persons who are
denominated, and divided into 14 guild counsellors, 3 of

whom are bailiffs, and 7 trade counsellors.

The parish and environs of Burntisland are diversified with

mountain and plain. To the westward of the town the

shore is rocky, and on the east it is sandy. The rocks

constitute a good defence to the harbour, and at the same

time furnish sufficient sea-weed to make 12 or 15 tons of

kelp annually. Within these are some productive oyster-

beds, and other shell fish frequent the recesses. "The

hills in the neighbourhood of the town exhibit many

appearances of volcanic fire; one is extremely like an extinct

volcano, the crater being converted into a lake on the top

of the hill, similar to those observed by the abbe Spal-

zanoni." (See his Travels in the Two Sicilies). On the north

side of this hill are several basaltic columns, and near the

summit are the remains of an encampment, called Agricola's

Camp. The population of this parish in 1801 was 1530.

W. long. 5° 5'. N. lat. 55° 8'. Pennant's Tour in Scot-

land. Gazetteer of Scotland.

BURNWOOD. See BRAINTWOD.

Burntwood river, a river of North America, which

flows from Burntwood lake through Split lake into port

Nelson, and there discharges itself into Hudson bay.

The lake is in N. lat. 55° 3'. W. long. 98° 40'.

BURONZO, a town of Italy; in the country of Ver-

celli, 12 miles N.W. of Vercelli.

BUROW, a town of Germany, in the circle of Upper

Saxony, and principality of Anhalt-Zerbst; 2 miles W. of

Cobwick.

Burr, the round knob of a horn next the deer's

head. Burr denotes a hollow triangular chisel, used to clear the corners of mortises.

Burr, in Botany. See Bud.

Burr, in Geography, a small rocky island, with some

smaller rocks often covered by the water in its neighbour-

hood on the eastern coast of the country of Down, Ireland, a little to the north of which is tolerable anchorage. It is

nine Irish miles south of Donaghadee, and as many north of the entrance into Strangford lough. N. lat. 54° 28'. W.

long. 5° 19'.
BUR

BUR, in Heraldry, means a broad ring of iron behind the place made for the hand on the tilting spear, which burr is brought to the rest when the tilter charges his spear to secure it.

BURR-pump. See Bidge and Pump.
BURR-red, in Botany. See Sparganium.
BURR-flower. See Mill-flower.
BURRA, in Geography, a large and fertile mountain of Arabia, near Homran.

BURRA, one of the Shetland islands of Scotland, situated on the western coast of the main land. N. lat. 5° 28'. E. long. 1° 32'.

BURRAMPOOTER, or as it is called by the people of Aam, Burrampoot, a large river of Aam, and the noblest tributary stream of the Ganges, derives its name from a Sanscrit word, Brahma-poot, which signifies the "Son of Brahma," and became known to us, as a capital river, in consequence of the survey made of it by major Rennell, in 1763. He found it to be rather larger than the Ganges, and that its course previous to its entering Bengal was from the east, although all former accounts represented it as proceeding from the north. This noble river has its source on the opposite side of the same mountains that give rise to the Ganges, and still takes its course eastward, or directly opposite to that of the Ganges, through the country of Thibet, where it is named "Sapoo" or "Zanciu," which bears the same interpretation as the "Gongal" of Hindoostan, namely, "the river." After winding with a rapid current through Thibet, it washes the border of the territory of Laffa, and then deviating from an east to a south-east course, it approaches within 220 miles of Yunnan, the westermost province of China. Hence it turns suddenly to the west through Aam, where it probably changes its name, being there called Burrampoot, and enters Bengal on the north-east. After its entry into Bengal, it makes a circuit round the western point of the Garroo mountains, and then, altering its course to south, it meets the Ganges about 40 miles from the sea. After the river Megna has fallen into the Burrampoot, it communicates its name, though a much smaller river to the other, during the rest of its course. A singular circumstance, lately discovered, attends the courses of the Ganges and Burrampoot, with respect to each other. Iluding from opposite sides of the same ridges of mountains, they direct their respective courses towards opposite waters, till they are more than 1200 miles asunder; and afterwards meet in one point near the sea, after each has performed a winding course of more than 2000 miles. The Burrampoot, during a course of 400 miles through Bengal, bears so intimate a resemblance to the Ganges, except in one particular, that the same description may serve for both. The exception is, that during the last 65 miles, before its junction with the Ganges, it forms a stream which is regularly from 4 to 5 miles wide; and which, the freshness of its water excepted, might pass for an arm of the sea. In attempting to convey an adequate idea of the grandeur of this magnificent object, major Rennell adopts the poetical language of Thomsen, in his "Scacens:"

'"Scarce the muse
Dares stretch her wing o'er this enormous main
Of rushing water; to whose dread expanse,
Continuous depth, and wondrous length of course,
Our floods are rills.--"

The major, in accounting for the singular breadth of the Megna, is led to suppose, that the Ganges once joined where the Isamuntu now does near Fringy-bazar, and that their joint waters scooped out its present bed. The present junction of these two mighty rivers below Luckipour, produces a body of running fresh water, hardly to be equaled in the old hemisphere; and, perhaps, not exceeded in the new. It now forms a great interlaced with islands, some of which rival, in size and fertility, our life of Wight. The water at ordinary times is hardly brackish at the extremities of these islands; and, in the rainy season, the sea (or at least the surface of it) is perfectly fresh to the distance of many leagues from the shore. For an account of the bore in the Megna, see Bore. Rennell's Memoir.

BURRAS pipe, an instrument used by smiths, consisting of a copper box with a spout, having teeth like a saw; sometimes also used by fencers for the application of certain solid medicines by injection.

BURREL, see Entomology. See Wringle-tail.
BURREN, in Geography, a barony in the northern part of the county of Clare, Ireland. It is very mountainous, and Cromwell's forces which were sent to harass the inhabitants for refusing to pay contributions, complained that it had neither wood, water, nor earth, sufficient to hang, drown, or bury a man. Such, however, is the luxuriance of the pastures, intermingled among the rocks, that these seemingly barren hills supply a great number of cattle, and very large flocks of sheep.

BURRESAKANE, a port town of the county of Tipperary, Ireland, 79 Irish miles S.W. from Dublin.

BURRESHOOLE, a village and parish of the county of Mayo, Ireland, situated near the mouth of a small river of the same name, which falls into Newport of Clew bay, about two miles north of the town of Newport. It was once of sufficient importance to give name to the barony it is in; and even to the bay also. There still remains some part of a monastery founded here by one of the family of Bourke or Barsho of the branch called M. William Oughter. The barony is very mountainous, and entirely delitute of wood, but the soil in the valleys, which is mostly moory loam, is pretty good for tillage, in which it is almost exclusively employed. The barony includes the large island of Achill, and a great number of other islands.

BURROCK, a small wear or dam, where wheels are laid in a river for the taking of fish.

BUROS-IN-OSSE, a town of the Queen's county, Ireland, near the confines of Tipperary, 53 Irish miles S.W. of Dublin.

BUROSLEAGH, a port town of the county of Tipperary, Ireland, 77 Irish miles S.W. from Dublin.

BURROugh. See Borough.
BURROUGH, Edward, in Biography, one of the earliest preachers among the Quakers, was born of parents belonging to the established Church of England, at or near Kendal, in Westmorland, about the year 1634. In early life, he was distinguished by his piety and virtue, as well as by the manliness of his resolution, and the courteousness of his temper. Anxious for the purity of religious worship, he adopted, in his twelfth year, that of the Presbyterians, because he conceived it to be most conformable to the scriptures. At the age of 17, he attended the preaching of George Fox; and though at first he concluded in his own ability to refute the doctrines which were taught by that zealous propagator of the tenets and practices of the Quakers, he was proselyted by conferences with him, and became an ardent partisan of this sect. This second change of his religious opinions incensed his parents to such a degree, that they turned him out of doors; and to this hardship he submitted without repining. At the age of 20, he accompanied his intimate friend, Francis Howgill, to London, where he embraced every opportunity that offered itself, of addressing assemblies of people; and such were his natural eloquence and the fervour of his zeal, that he succeeded in gaining profelytes. His success, however, excited the interference of the magistrates,
Burroughs's Machine, in Mechanics, a machine for
grinding and polishing glass-plates, invented by Mr. Burroughs
of Southwark, for which the Society of Arts gave him a
premium of 70l.

This machine consists of a cog-wheel A, Pl. II. Optics, fig. 4,
12 feet in diameter, carrying 72 cogs; which turn a trundl-
head B, one foot and four inches in diameter, and furnished
with eight rounds; and also an horizontal spur-wheel C, of 12
cogs, and one foot eight inches in diameter. The trundl-
head B turns a spur-wheel D of ten cogs, and two feet eight
inches in diameter. This spur-wheel has two cranks, a, b,
in its shaft; one of which a gives motion to a wooden frame,
c, about 34 inches long and 19 broad. On the under side
of this frame are followed by screws twelve pieces of polished
metal, each five inches and a half long, and three broad,
covered with leather; and underneath these polishers, a glass
plate cemented in another frame is placed on the bench d,
and polished with triпул by the motion given to the upper
frame by the crank a. The nuts of the screws which fasten
the polishers to the upper frame are not screwed close to the
wood, in order to give the frame room to play; by which
contrivance the perpendicular rise of the crank is avoided,
and the motion of the polishers always parallel and equal.

The under frame may be moved by the hand in any direc-
tion without stopping the machine; by which means the
plate, when larger than the polishing frame can cover in its
motion, will be equally polished in every part.

The other crank, b, gives motion to two other polishers
marked a, c, which have an alternate motion by the bend-
ing of the crank; they move upon the frame plate, and
have an equal number of polishers as that already described.

The same crank also gives motion to a contrivance repre-
sented at e for polishing spectacle-glass. It consists of two
segments of the same sphere; one concave and the other con-
vex. On the latter the glass-plates are cemented; and polished
by the former, which is moved by the crank b. The con-
vex segment may be moved round by the hand without
stopping the machine, so that all the glass-plates on its super-
ciﬁcies will be equally polished.

But this contrivance, in which the merit of the machine
principally consists, will be much better conceived from a
small delineation of it by itself, fig. 5, where F is the crank
marked f in fig. 4 and turned by the spur-wheel C in the
same ﬁgure. G is the trigger, three feet two inches long.
I, a roller ﬁxed on the trigger for the rod to slide on. H, the
horizontal spur-wheel, eleven inches in diameter, ﬁxed on
the grinding plate; the teeth of which are touched by the
trigger; but with a very unequal force, as it will wholly de-
dpend upon the grinding-plate's being farther from, or nearer
to, the centre of motion of the trigger. By this simple
contrivance, the grinding-plate has a very compound
motion, never moving exactly in the same track, and therefore
must grind the plates equally in every part. Several at-
ttempts have been made by others for producing the fame
effect; but without success; the grinding-plate always fol-
lores the same track, and consequently the plates are ground
equally.

Burrough, of Barrow. See Barrow.

Burrow, Sir James, in Biography, master of the
Crown-Ofﬁce, was fellow both of the Royal and Antiquarian
Societies, and on the death of Mr. Welh in 1773, he occu-
pied the president of president of the Royal Society till the an-
iversary election, when he succeeded it to sir John
Barrow; and in 1773, on occasion of an address presented by
the Society to his majesty, he received the honour of
knighthood. He published two volumes of reports in 1766,
two others in 1771 and 1776, and a volume of decisions of
the
the court of king's bench, upon settlement cafes, from
1732 to 1773, to which was subjoined an "Essay of Punctua-
tion," in three parts 4to., 1768, 1772, 1776. This essay
was also printed separately in 4to., 1773. He also
published, without his name, a few anecdotes and observa-
ations relating to Oliver Cromwell and his family, serving to
rectify several errors concerning him; published by Nicol.
Comm. Papadopoli, in his "Hiliora Gymnasi Patavini,"
1703, 4to. He died Nov. 5, 1782.

BURREWS, holes in a warren, serving as a covert for
rabbits, &c.

A coney's coming out of her burrow is called bolting. To
catch coneyes, they sometimes lay burfe-nets over the bur-
rows, then put in a terrier clofe muzzled, which making the
creature bolt, she is caught in the net.

BURRUN-SUNDER, in History, the denomination of a
fifth or adventitious clafs of Hindoos, diftinft from, and
subordinate to the four regular clafs or claffes into which
they are distributed, and fuppoled to be the offspring of
an unlawful union between perfons of different clafs. These
are moftly dealers in petty articles of retail trade. This
adventitious call is not mentioned by European authors;
and they fome to be the members of this call as belonging to
the Soofer. Preface to the code of Gentoo laws, p. 46 and 99. See CAST.

BURS, in Navigation, are boats so called in Bengal,
which are used for inland navigation on the Ganges, and are
very lightly built of thin deals, without either keel or fide-
timbers. The edges of the planks are filled together with
staples, and the seams are bucked up with moss, and
payed with creafe. Their largest breadth is about one third
of their whole length from the keel, where they run up with
a bow: they are very sharp forwards, and are not very high
above the water. Although they are of different fizes, they
are all of the fame fhape and construction; and fome of
them can load fifty thousand pounds weight of merchandize,
and more. They are provided with a fingle mall, which
has a large square faul; and as they take in a great quantity
of water from the fides and bottoms, the crew are compelled
to employ fome perfon continually in baling. They are
ufed for the carriage of cotton, and other bulky materials,
the weight of which cannot bear any proportion to their fize.
In common with all the other boats of the country, their
bottoms are nearly flat; and indeed, it would be impracticable
on the Ganges to employ vehfels formed for drawing any
considerable quantity of water, as the navigation is rendered
extremely dangerous from the continual shifting of the
fands.

BURSA, Burfe, originally signifies a purse.

BURSA is more particularly used, in Middle Age Writers,
for a little college or hall in an university, for the residence
of students, called burfes, or burfari.

BURSA, Burfe, or Boufe, in the French universities, still
denotes a foundation for the maintenance of poor scholars in
their studies.

The nomination of burfes is in the hands of the patrons
and founders thereof. The burfes of colleges are not benefi-
cies, but mere places alligned to certain countries and per-
tons. A burfe becomes vacant by the burfer's being pro-
moted to a cure, as being incompatible.

BURSA, or PRUSA, in Geography, a beautiful town of
Asiatic Turkey, in the province of Natalia, fituate at the
northern foot of mount Olympus, and well watered by
springs. The Jews have four synagogues, the Greeks three
churches, and a metropolitan: the Armenians have likewise
a church, and an archbishop. The Berene is a spacious
didice, well built and filled with warehousses and shops, in
which are exposed to sale all kinds of merchandizes, brought
hither from the Levant, besides the beautiful carpets, silk
fluffs, velvet, &c. manufactured in the city itself. The Bi-
thanian filk, which is the finest in Turkey, is mostly manu-
factured here, besides considerable quantities brought from
Peria, which, though left fine, is wrought by the Prufian
workmen, who are allowed to be the best in Turkey for
weaving hangings, tapefry, carpets, and fuch articles,
which are in great request, and carried from hence into all
parts of Europe. The commerce of this place is much in-
creased by the carvans that pafs through it from Aleppo
and Smyrna to Constantinople, and also to Iffapan. This
city was built by Prufias, king of Bithynia, after whom it
was called Prufia or Prufia. In the year 947, it was taken
and difmantled by Seifeddulat, an Arabian prince of the
race of Hamadan; but fon after reconquered and founded by
the Greeks, who paffed it from that time till the year 1336,
when Orchan, the fon of Othman II., the emperor of the
Turks, reduced it and made it the feat of his empire. From
the conquest of Prufia, authors have dated the true era of
the Ottoman empire. About a league from the town is some
celebrated warm baths, on the road to which are seen the
tombs of ferveral fultans, and chapels of marble and jasper.
By Tournefort's computation of families, the number of
inhabitants has been estimated at 65,000. N. lat. 40° 3'.
E. long. 28° 15'.

BURSA, in Zoology, a species of Alcyonium, called in
common the fena-purfe. This is fomewhat globular, pulpsous,
and green. Gmel. Pallis decribès it as being subglobu-
lar, hollow, very green and soft, or pulpsous, and thickly
covered with transparent papille.

The alcyonium burfa inhabit the sea coasts of Europe;
it is coriaceous, and about the size of a middling apple.
The species is termed by Ray, &c. burfa marina. Aurantia
marina. C. Bauh. Aurantium marinum, Marf. hilf. mar. &c.

BURSA nucifla, in Anatomy, is an apparatus for facilitat-
ing the motion of muscles and tendons upon these parts on
which they are designed to glide backwards and forwards.
They are all found between other parts which have a fimi-
lar sliding motion on each other; as for instance, between
the joint of the shoulder and the aeronon.

The apparatus confifts of a bag, one surface of which is
closely connected to the muscle, and the other to the subja-
cent parts.

In structure it resembles the burfe or capsules of
joints, as in them there is secreted into its cavity a flippy
fluid like the synovia. When a muscle or tendon moves
freely and frequently upon a bone, the surface of the latter
is rendered more smooth by a thin crufit of cartilage being
formed upon it; and this circumstance further increases the
fimilitude of these contrivances to joints. An infence
of this may be obferved on the upper part of the os calcaris
upon which the tendo Achillis glides. These burfes will be
noticed in the description of the individual muscles to which
they belong. Dr. Monro has published a detailed account
of the burfe to which the reader is referred.

BURSA fojiarius, in Botany, alpina, rofea, lutca. Mor. See
DRABA azizades.

BURSA alpina, hirifut. C. Bauh. See DRABA birta.

BURSA major, loculo oblongo. C. Bauh. and J. Bauh.

See DRABA murafis.

BURSA minor, loculo oblongo. C. Bauh. See DRABA
vera.

BURSA. Fucks.

BURSA major, folio finuato. C. Bauh. See THASPE.

BURSA major, folio non finuato. C. B. [BURSA fojiarius.

BURSA media. C. B. 

BURSA
BURSA minor. Dod.
BURSA minor, folis incisis. C. Bauh. See T bredis
BURSA minima, Loh. See Bursa cornuta.
BURSA orientalis, Tour. See Bursa cornuta.
BURSALI, in Geography, a country of Africa, in Negroland, situated on the side of the river Gambie; about 12 leagues in length.
BURSALIS mycelius, in Anatomy, a name given by Cowper and others to a mucous of the thigh, called also marifapalis by the same authors. It is the obturator internus of Winlow and Albinus, and is described by Velsius under the name of clavus tertius movement, and by Spigelius under that of circumventris tertius, or obturator internus.
BURSAM. necocito per, in the Norman Laws, is a right belonging to the next akin, to redeem or purchase back, within a year after sale, a fee or tenement alienated by his kinman, on paying the price it had been fold at.
BURG. or BURSER, burfarius, is used in Middle Age Writers for a treasurer or cash-keeper.
In this sense we meet with burfars of colleges. Conven- tual burfars were officers in monasteries, were to deliver up their account yearly on the day after Michaelmas.
The word is formed from the Latin burf; whence also the English word purse; and hence the like officer, who in a college is called burlar, in a ship is called burser.
BURSARS or BURSER, in Universitas, also denote those who enjoy certain benefits left for defraying the expenses of the education of young men of promising parts, and small fortune. Actions brought for the effects of a college, are entered in the name of the principals and burfars. See Bursa.
BURSARIA, Burfary, in Middle Age Writers, denotes the place of receiving and paying money and rents by the burfars, or officers of account, in religious houses. See Burza and Bursar.
BURSARIA, in Entomology, a species of Apolis, found on the black poplar, in the hollow excreences which it forms in the leaves.
BURSARIA, in Zoology, a species of seetularia, described by Ellis, as an inhabitant of the British coasts. The denticles are opposite, compressed, falligiate, branched, and dichotomous; called the Shepherd’s Purse coraline in English.
BURSCHEIDT, in Geography, a town in Germany, in the bishopric of Cologny, near Aix-la-Chapelle, with a Cistercian abbey, the abbots of which has a seat in the diet.
BURSE, in Masters of Commerce, denotes a public edifice for the assembly and mercer of merchants and traders; and is used in the same sense with the modern appellation of Exchange. In the times of the Romans, there were public places for the meeting of merchants in most trading cities of the empire; that built at Rome in the 295th year after its foundation, under the consulate of Appius Claudius, and Publius Servilius, was denominated the "College of Merchants," of which some remains are still visible, and known by the modern Romans, under the name "Loogia." The Hans towns, after the example of the Romans, gave the name of Colleges to their burases.
The first place of this kind to which the name burse was given, Giuicardini affixes, was at Bruges; and it took its denomination from a hotel adjoining to it, built by a lord of the family de la Bourse, whose arms, which are three purses, are still found on the crownings over the portal of the house. Cato's account is somewhat different, viz. that the merchants of Bruges bought a house or apartment to meet in, at which was the sign of the purse. From this city the name was afterwards transferred to the like places in others, as in Antwerp, Amsterdam, Bergen in Norway, and London.
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BURSEAH, in Geography, a town of Hindoostan, in the Malwa country, 90 miles E. of Oogeen.
Gen. Ch. Cal. small, caducous, one-leaved, with three or five divisions. Cor. Petals three, or five, ovate or lanceolate, a little longer than the calyx, and alternating with its divisions. Stamens, five, or ten; sepals straight, shorter than the petals: anthers ovate or oblong. Pi. germ. superior, ovate, obtuse, or cornered: stigma short: stigma capitate, obtuse. Peric. capsule one-celled with three succulent valves. Linn. on the authority of Jaccou. Berry coriaceous, ovate, three-cornered: containing a fleshy pulp substance generally one, but sometimes two, or even five ovate, compressed nuts; convex and on one side, angular and uneven on the other, enclosing a kernel. The natural number is more than one, but the rind is generally abortive. La Marek.
Effen. Ch. Pericarp, a coriaceous drupaceous berry, containing from one to five nuts, angular on one side, and convex on the other. La Marek.
Obf. La Marek observes, that as the fruit contains a true stone with a kernel within it, and as, moreover, it is inclosed in a pulpy substance, and with a fleshy skin, it cannot be considered as a capsule: but in opposition to this opinion given in the Encyclopaedia, we may remark that, if his figure (fiiult.) be correct, it opens with three valves; a character not compatible with the definition either of a berry or a drupe. Authors differ much in their description of the fruitification. Schreber places it in the class Polygama, but doubts whether
BURSTADT, BURSLEM, VOL.

whether it does not properly belong to *diccia*, the anthus in the pinnate-leaved plants appearing to be fertile.

Sp. 1. B. gummifera, Linn. (Terebinthus, Comm. Brown. Sloani. Catechb. Palacia, Linn. Sp. Pl. Ed. 1.) La Marek Illilt. pl. 256. Jamaica birch tree. "Racemes axillary, flowers white." La Marek. A large and lofty tree. Trunk upright, smooth, round, covered with a smooth, thin, brown or greyish epidermis, peeling off in shreds like the European birch. Leaves, deciduous, alternate, unequally winged; leaflets three, five, seven, or sometimes nine, opposite, petiolate, ovate, acute, entire, smooth on both sides, a little shining beneath, about an inch and half or two inches broad, three inches long, a little heart-shaped at their base. Flowers, small, without smell, in compound axillary racemes, near the summit of the branches. Fruit, the size of a hazel nut, greenish, tinged with purple when ripe, rufous, odorous. La Marek. From the interior bark exudes a clear, glutinous balsamic juice, which flows like turpentine, and foons thickens in the air, into the form of a gum. The bark of the root is thought to be the Sima-roboth of the shops, which is an effectual remedy in bloody fluxes. La Marek supposes that the Terebinthus of Catesby with lanceolate leaves, and a bluish-violet fruit, is either a distinct species, or at least a well-marked variety. A native of the Well Indies. 2. B. paniculata. La Marek. "Racemes panicked, terminal; flowers purple." Com. Herb. 1c. and MSS. A large tree. Branches below the leaves rough with tubercles and scars. Leaves alternate, unequally winged; leaflets five or seven, ovate-acuminate, entire, smooth, petiolate, with nerves slightly projecting beneath. Flowers small, numerous in panicked, terminal racemes about six inches long. Calyx small, one-leaved, three-lobed. Petals three, longer than the calyx, broad at their base, obtuse at their summit, with a small scarcely discernible point. Stamens five: filaments half the length of the petals, nearly convexit: anthers, brown, oblong, with three furrows. In many flowers, Commerson could not observe any appearance of a pistil, but in others there was a very obtuse stigma in the centre of a kind of receptacle flattened above, and somewhat five-cornered. It produces a reniform juice like the preceding. A native of the Ille de France. 3. B. obtusifolia. La Marek. (Marignia. Comm.) "Racemes panicked, subterminal; leaflets obtuse." A large tree, very reinosus. Leaves alternate, scattered, unequally winged; leaflets five or seven, and sometimes nine, ovate-oblong, obtuse, thickish, coriaceous, smooth on both sides, even and shining above, petiolate, opposite, an inch and half broad, three inches long. Flowers small, very numerous, white: racemes much branched. Calyx very small, with five divisions. Petals five, ovate-lanceolate, expanding, nearly twice the length of the calyx, and attached between its divisions. Stamens ten: filaments very short: anthers small, round, yellowish. Germ round; stigma almost sessile. Fruit, a drupaceous coriaceous berry, about the size of a hazel nut; pulp rather thick, glutinous, and reddish: nuts from one to five, rather thick, convex on one side, angular on the other. A native of the Ille de France.

BURSERIA, Linn. See *Verbena Lappulacea*.

BURSLEM, in Geography, a village of Staffordshire, in England, famous for its pottery, three miles N. of Newcastle under Lyme.

BURSTADT, a town of Germany, in the circle of the Lower Rhine, and electorate of Meutz; two miles E. of Miltenberg.

BURSTEN, a person ruptured, called by physicians hernia; in middle age writers, puerpera. See *Hernia*.

BURTHEN. See *Burden*.

BURTON, William, in Biography, a skilful topographer, and antiquary, was born of a good family at Lindley in Leicestshire, in 1575; and educated at Brazen-Noke college in the university of Oxford. When he left college, he entered for the study of the law in the Temple, and in due time was called to the bar. But as his fortune was small, and his health delicate, he declined pursuing his profession, and retired into the country, where he devoted himself to the study of antiquities, and became eminent in this department. His description of Leicestshire, published in 1622, in a small folio, and republished by William Wittingham of Lynn, in 1777, was one of the earliest county histories, having been preceded by only four others; and from this circumstance it derives its chief reputation. The style of it is flowec and the digressions are numerous. After having been much injured by the civil wars, he died at his seat of Fulke, in Staffordshire, in 1655; and left behind him several MSS. collections of arms, monuments, and other matters of antiquity. His son, whom he named Calibihan, published a translation in verse of Martial's epigrams.

Another William Burton was born in London, and educated at Queen's college, Oxford; and having been Greek lecturer in Gloucester Hall, was constrained by indigence to leave the university in 1630. He afterwards became master of the free grammar school at Kington upon Thames, which office he resigned two years before his death in 1637. Besides his principal work, which was "A Commentary on Antoninus his Itinerary, &c." illustrated with a chorographical map of the several stations," Lond. 1658, folio, he wrote, in Latin, a history of the Peric language and other works, enumerated by Wood in his Athenae. His great-grandfather is said to have expired with excess of joy upon being informed of the death of Queen Mary.

Biog. Brit.

BURTON, Robert, brother of the antiquary, William, was born at Lindley, in 1576, and educated at Brazen-Noke and Christ-church colleges, in the university of Oxford. He retained two preferments in the church, viz. the vicarage of St. Thomas in Oxford, and the rectory of Segrave in Leicestshire, till his death in 1639. He was much addicted to astrology, and is said to have predicted the time of his own death. With the character of a general scholar and hard student, well versed in the pedantic literature of the times, he combined great integrity and benevolence. But his temper was of a humorous and melancholic cast, which gave a singular kind of oddity to his conduct. In order to relieve his melancholy, he diverted himself by listening to the rambles of the bargemen, which seldom failed to occasion vehement bursts of laughter. At other times he was one of the most factious companions in the University. His famous book, entitled the "Anatomy of Melancholy," was composed with a view of soothing his peculiar disposition; and contains chiefly extracts from ancient authors, illustrating the causes, effects, and cure of that morbid affection. The author's own reflections are few; but they are original, ingenious, and striking. To the bookfeller, this work, printed first in 1628 and afterwards frequently in folio, was very profitable. After it had been long neglected and almost forgotten, it attracted notice in consequence of an ingenious essay by Dr. Ferrier of Manchester, who detected among the plagiarism of Sterne, various passages copied verbatim from Burton. The author died in 1639; and the following inscription, written by himself, was put upon his monument in Christ-church: "Paucis notus, paucioribus ignotus, hic jacet Democritus junior, cui vitam detet et mortem melancholia." Biog. Brit.

BURTON, John, a learned divine of the last century, was born...
born in 1676, at Wembourne, in Devonshire, and admitted a scholar of Corpus Christi college at Oxford in 1723; of which he at length became a tutor. In the exercise of this office, he devoted himself with singular affability and zeal to the improvement of his pupils; and he exerted himself in a variety of ways for the advancement of learning. Besides the attention which he paid to academical discipline, he improved the mode of discussing philosophical questions in the schools, and had the honour of introducing the study of Locke, and other modern philosophers, in connection with Aristotle. He also took great pains in promoting classical literature, by frequent lectures both in the Greek and Latin languages; and he extended the utility of the university press for the aid and encouragement of literary undertakings. In 1733 he was elected a fellow of Eton college; and about the same time was presented to the vicarage of Maple-Derham, in Oxfordshire. On this occasion he was induced, by motives of sympathy and compassion, to marry the widow of his predecessor in that living, with the charge of three infant daughters that were left destitute; and though he thus formed a connection which, according to the maxims of the world, would be condemned as imprudent, he found in the event that the choice of a person who possessed every qualification for fixing his attachment, except money, contributed to his future happiness. In this retired station of a country clergyman, he continued for several years; occupying himself in literary pursuits, and in the improvement of his house and grounds, not less for the benefit of his successors than for his own amelioration. After the death of his wife in 1748, an event which deeply affected him, and which he much lamented, he chiefly resided on his fellowship at Eton; where his situation was such in every respect as suited his studious and literary disposition. In 1752 he took his degree of doctor in divinity; and continued to appear occasionally both as a writer and a preacher, much esteemed by the higher and lower classes of his own order, with whom he had frequent and free intercourse, and also by the common people, with whom he associated in the most cordial and affable manner. His leisure hours he amused by poetical exercises. Towards the close of his life he was attacked with a fever, which impaired his intellect, and shattered his deciding frame; but at intervals he seemed to recover the powers both of his body and mind. On the evening of Sunday, the day before his death, he discoursed according to his usual manner, with more than usual perspicuity and elegance, on some theological subject; and after a very serene sleep, he gently departed this life on the following day, February the 11th, 1771, and was buried at the entrance of the inner chapel at Eton. The works of Dr. Burton are chiefly collected in two volumes of Sermons, which are much laboured, of a considerable length, and containing a great variety of matter; an octavo volume of theological disquisitions, entitled "Opuscula Miscellanea Theologiae," and another of "Opuscula Miscellanea Metrical-profatica," comprehending a variety of pieces in Greek and Latin, with two or three copies of English verses. In one of these pieces, entitled "Commetariolus Thomas Seeker, Archbishop. Cantuar. memorie facer," Dr. Burton indulged himself in some severity of animadversion against the divines, on account of their supposed opposition to the settlement of a bishop in America, which induced Dr. Furneaux in his letters to Mr. Justice Blackstone, to vindicate that body of men against the charge brought against them. Dr. Burton was also the author of some other publications besides those contained in the volumes above-mentioned. In 1744 he published at Oxford, in large 8vo. "The Genuineness of Lord Clarendon's History of the Rebellion, printed at Oxford, vindicated," in which he fully refutes the slander that had been advanced by Oldmixon, in his Critical History of England. In 1758, appeared his "Dissertatio et Notae Criticæ respectant ad Tragédias quaedam Graecas, editas in Pentalogia." The publication of the five select tragedies, which constitute the "Pentalogia," had been recommended to him by a pupil of promining talents, Joseph Bingham, who had printed almost the whole text and notes, when in 1756 he was cut off by a premature death. Dr. Burton has added a preface, dissertations, and additional notes. This work has been reprinted at the Clarendon press, and is much esteemed as a book for students in Greek. In 1766, Dr. Burton published a discourse, entitled, "Papists and Pharisees compared, or Papists the corrupers of Chriftianity," occasioned by Philip's life of Cardinal Pole. About the same time he also delivered a set of sermons, in MS.; the design of which was to refute the articles of the Council of Trent. He is also underlived to have been the author, under the name of Philletheus Louisenof, of "The Remarks on Dr. King's Speech before the University of Oxford, at the dedication of Dr. Radcliffe's library, on the 13th of April, 1749;" to which Dr. King replied in his "Elegium famæ intimans Jacei Etonensis, or Gigantis; or, the Prais of Jack of Eton, commonly called Jack the Giant; collected into English metre, after the manner of Thomas Sternhold. John Hopkins, John Burton, and others. To which is added, a Dissertation on the Burtonian Style, by a Master of Arts." But the most severe attack on Dr. Burton's style, as affected and pedantic, was that of Churchill in one of his poems, (works, vol. iii. p. 124,) who has exercised all the uncandid severity of his pen to expel it to ridicule. However, prejudice cannot deny, that Dr. Burton was "an able divine, a found scholar, and an excellent academic; and that he fed an useful example to university-men, whether as fellows, tutors, officers, or editors. In short, his abilities, virtues, and learning were such as fully entitle him to have his name transmitted with honour to posterity." Biog. Brit.

BURTON, JOHN, the scholar of Keele, a harpischord player, with a powerful hand, and much enthusiasm in his art; but having in his youth exercised his hand more than his head, he was not a deep or correct contrapunctist. He had, however, in his pieces and manner of playing them a style of his own, to which, from his having been one of the first harpischord players in our country, who attempted expression and light and shade, he excited an interest and attention, which would now perhaps be much more difficult to obtain.

Travelling into Italy, with Mr. Beckford, at the time when the Malapria raged, he became a victim, about 1779, to the imprudence of passing from Rome to Naples on the verge of the Pontine marshes, in spite of the admonitions of the native inhabitants.

BURTON, or BURTON in Kendal, in Geography, a small market-town on the borders of Lancashire, in the county of Westmoreland. Here are some good houses and two large inns, situated on the great turnpike road. It derives some advantages from travellers; and from the canal, lately brought here, by which a commercial communication is opened with the rivers Dee, Mersey, Trent, Derwent, Humber, Severn, &c. Here are a small market on Tuesdays, and one fair annually. It is 251 miles N.W. from London, and contains 138 houses, and 548 inhabitants. Houftan's Topographical Description of Cumberland, &c. Svo. 1800.

BURTON-upon-Trent, is an ancient and large market-town of Staffordshire, England. It is situated in a pleasant and fertile valley on the banks of the river Trent, which separates
rates this part of the county from Derbyshire. This town has long been celebrated for its ale breweries and malt-houses. The Burton ale is a beverage in high repute at most of the large towns of England, and is exported to different places on the continent. It is commonly of a thick and glutinous quality, of a sweetish taste, and a small quantity produces inebriation with those persons not accustomed to it (vide ALE). Among the manufactures of this place are hats, which are made in large quantities for the army, navy, &c.; srews, fpades, and other iron utensils, are also made here; as are some tammies and woollen cloths. Three extensive cotton manufactories are established in the vicinity of the town; and about half a mile distant, on an island, is a considerable forge, for converting bloom and scrap iron into bars. The river Trent has long been made navigable from Gainsborough to this town for boats of large burthen. The Burton boat company are proprietors of this navigation, and of many boats on the grand trunk canal. This packet parallels with the town, and at about one mile distance communicates with the Trent.

Burton, in the time of Leland, had "one parish church, a chapel at the bridge end," and was noted for its marble and alabaster works. Here is a long bridge of 36 arches, which crosses the Trent, and was, according to Mr. Gough, "built in the time of Henry II., or earlier." The parish church, built in 1722, adjoins the abbey, which was founded by Wulftric Spot, in 693, for Benedictines. Some of its ancient walls remain, but are altered and fitted up as the manor house. Its abbot had a large piece of hilly ground, about one mile from the abbey, which he called Sinai. This hill bears the name of Sinai park. Burton was formerly ornamented with a caille, which, Mr. Gough says, was built by one of the Terris' family, in the time of the Conqueror. Here are a free-school, two almshouses, and a town-hall, the latter of which was built, in 1772, by the earl of Uxbridge, who is lord of the manor, and holds his courts-lect, &c. in this structure. The town has, within a few years, been greatly improved by the paving and lighting of its streets. It has a large market on Thursdays, and four fairs annually, one of which continues for five days, and is noted for its large shew of horses. Burton is 125 miles N.W. from London, and contains 738 houses, with 3678 inhabitants, the greater part of whom are engaged in trade and manufactories. Gough's edition of Camden's Britannia, vol. ii. Shaw's History of Staffordshire.

Burton, a small township of America, in Grafton county, New Hampshire, incorporated in 1736, and containing 144 inhabitants. Also, a township in the British province of New Brunswick, situated in Sunbury county, on the river St. John.

Burton, in Sea Language, a small tackle consisting of two fiddle blocks, and a rope passing through them, until it becomes three or four-fold. It is employed in loading or discharging goods, as bales, casks, &c. and in removing the anchors, or any weighty body, on deck, in setting up the top-mast rigging, &c.

BURUGERD, in Geography, a town of Peru, in the province of Irak-Agemi; 92 miles S.E. of Amadán.

BURULUK, a town of Russia, in the government of Vorontz; 60 miles S.W. of Vorontz.

BURUN, a town of European Turkey, in the government of Romania; 50 miles E. of Emboli.

BURUNNIUTAPCHARA, a cape in the Caspian Sea, 112 miles S. of Gurgiev. N. lat. 52° 50'; E. long. 65° 14'.

BURWAH, a town of Hindoostan, in the country of Bahar; 153 miles S. of Patna. N. lat. 23° 10'. E. long. 84° 30'.

BURY, is sometimes used to denote the hole or den of some animal under ground. See Burrow.

In which sense we say the bury of a mole, a tortois, or the like. The geology, or mole cricket, digs itself a bury with its fore-tect, which are made broad and strong for that purpose. Naturalists speak of a kind of urchins in the island of Maraguan, which have two entries to their buries, one towards the north, the other to the south, which they open and shut alternately, as the wind happens to lie.

Bury, in Geography, a market town of Lancashire, England, is seated in a fine valley on the banks of the river Irwell, at the distance of 155 miles N.W. from London, and 9 miles N. of Manchester. Situated in the midst of a great manufacturing district, most of its houses and inhabitants are appropriated to and engaged in the cotton works. Leland mentions Bury as being only a poor market-town in his time, but it has now acquired considerable wealth and commercial importance; which has partly arisen from the landable exertions of Sir Robert Peel bart., who, having a seat at Chamber-hall in this neighbourhood, has established and promoted some large manufactories for calico printing, &c. The principal of these works, under the firm of Peel and Co. are situated on the side of the Irwell, from which they have large reservoirs of water.

The cotton manufactories, which are now so very flourishing in this district, appear to have been brought hence from Bolton in Yorkshire. Since their establishment at Bury, they have been greatly facilitated and promoted by means of various scientific and mechanical contrivances, which fir Robert Peel has encouraged. Among the inventions that have been brought forward under his patronage, is one called the wheel, or flying shuttle, which was first made by Mr. Robert Kay. This engine is calculated to make several cards at once. It straightens the wire out of the ring, cuts it into lengths, folds it, crooks it into teeth, picks the holes in the leaf, puts the teeth in, row after row, and performs the whole with a single operation of the machine, in an expeditious manner, by one person turning a shaft.

The parish of Bury is large, and divided into six townships, and has four chapels of ease, besides a modern handsome church in the town. The presbyterians, independent, and methodists have also places of worship. Here is a handsome free-school, well endowed, and provided with two masters: also a charity school for boys and girls. About one half of the town is leafield, under the earl of Derby, and the remainder is glebe belonging to the rectory. The living, in the gift of that earl, is rendered very valuable from the following circumstance: an act of parliament passed in 1764, empowering the rector, for the time being, to grant building leases for 99 years, renewable at any intervening period, on an agreement between the parties. The relative population of Bury, and its present extent, may be estimated from comparing the accounts of each in 1773 and 1831. In the former period there were 643 houses and 2090 inhabitants, and at the latter, according to the report of the house of commons, 1384 houses and 7672 inhabitants.

According to tradition there were two castles in and near this town. Indeed, its name partly confirms this; and at the west end of the town is a field called Castlecroft, where foundation walls have been dug up. At Castlefield in Walsall was an encampment; and near it is an eminence called Castle-hill. Aikin's Description of the Country round Manchester, 420. 173.
feated on the side of a hill, which slopes gently to the river Lutke. This place obtained its present name and principal importance from the relics of King Edmund, who being barbarously murdered by the Danes at Hornea in this county was proclaimed a royal martyr, and his shrine became an object of great veneration in the time of British monarchism. Though a monastery had been previously founded here by Gugbert, king of the East Angles, yet it does not appear that this monarch’s establishment excited any notoriety, or attracted many inhabitants. The abbey founded here in honour of St. Edmund, was raised by Aylwin, about the year 989, but was afterwards augmented by additional endowments, and enlarged in buildings. Nearly the whole was, however, destroyed by Sweyn king of Denmark, whose son Canute rebuilt the abbey, and restored the town to its former importance. Previous to this event, it appears that the town was known by the name of Deodriskworth. Canute offered up his crown at the shrine of St. Edmund, as did many other English kings, his successors. The church and monastery appear to have been rebuilt in the year 1020, and the former was consecrated on St. Luke’s day, A.D. 1032, by Agelnothus, archbishop of Canterbury. From this period it grew into great repute, and several monarchs, with many eminent persons, were desirous of being interred in this holy place. During the prosperity of the abbey, it was environed with a strong wall and ditch, and there was an hospital, or religious house, at every gate of the town. Among these the abbey-gate, or entrance to the abbott’s palace, is the principal structure remaining; and this is an interesting relic of architectural antiquity. It was erected in the reign of Richard II. about the year 1357, and at present is a good state of preservation. Its western front is adorned with several niches and carvings in tabernacle work, &c. Another of these structures, called Church-gate, or the portal, is remaining, and formerly led to the grand central church. It now serves as a tower to St. James’s church, and is supported on two semicircular arches, which admit of a free passage for carriages.

The town of Bury St. Edmunds, with its suburbs, extends from north to south, about 1½ mile, and in breadth ¾ mile. It is divided into five wards, and contains 34 streets, which are well paved, and intersect each other at nearly right angles. While the abbey was standing, there were three churches within its precincts, besides the one belonging to the monastery. That dedicated to St. Margaret is now made use of, with considerable alterations, as the shire-hall, where the county affaires are held. The two other churches “are defervedly esteemed for their exact and beautiful symmetry, their large and elegant windows, neat pillars, and noble roofs.” In the church of St. Mary, it appears that Mary Tudor, third daughter of Henry VII., and wife of Lewis XII., king of France, was interred. After the decease of the latter monarch, the married Charles Brandon, duke of Suffolk, and died in his life-time at Westminster in this county.

Bury has, at different times, been the seat of the English sovereign, and the place of assembling his parliaments. King Edward I. and Edward II. had mints here; and Stow says that here was also a mint in king John’s time. Among the other public buildings and establishments of the town, are the guildhall, the wool-halls, the gaol, the bridewell, the theatre, the market-cross, the butchery, and new shambles, the subscription-rooms, the free grammar school, and four meeting-houses.

Bury has the privilege of three annual fairs, one of which usually continues for three weeks. Here are also two

weekly markets on Wednesdays and Saturdays. In 1753, the number of inhabitants in this town was 5,819, and in 1851, they appear to have increased to 7,655. Though the population has thus evidently greatly increased, yet at some former periods many inhabitants have been swept away by the plague, &c. Mr. Nicholls, in his History of Leicestershire, states that 1603 persons died of the plague in Bury in 1349; and in 1638 upwards of 600 persons died of this dreadful calamity.

Lury was first privileged to send members to parliament by King James I., who incorporated it in the fourth year of his reign; and by two other charters in the sixth and twelfth years of his reign. The right of election is vested in the aldermen, burgesses, and common-councilmen, amounting to 37.

Gillingwater’s Historical and Descriptive Account of St. Edmund’s Bury, 12mo. 1804.

BURYING alive, was, among the Romans, the punishment of a veiled (see VESTA), for the violation of her vow of chastity. After being tried and sentenced by the pontifices, this punishment was inflicted and accompanied with funeral solemnities in a place called the “Campus Scle- ratus,” near the Porta Collina; and her paramount was scourged to death in the Forum. The unhappy priestess was let down, on this occasion, into a deep pit, with bread, water, milk, oil, a lamp burning, and a bed on which to lie; but this was mere show, for the moment she was at the bottom, they began to cast in the earth upon her, till the pit was filled up. Mem. Acad. Infer. t. iii. p. 278. This mode of punishment is said to have been first devised by Tarquinus Prifceus. Diony. iii. 67. Lord Bacon mentions instances of the resurrection of some persons who had been buried alive. Of this number was the famous Duns Scotus. See DUNS. For the places and different modes of burying, see Bury.

BURZANO, in Geography, a town of Naples, in the province of Calabria Ultra; 10 miles E.N.E. of Bova.

BURZETI, a town of France, in the department of the Ardeche, and chief place of a canton in the district of l’Argentiere. The place contains 2670, and the canton 4945 inhabitants; the territory comprehends 110 kilometres and 4 communes.

BUS, CESAR DE, in Biography, the founder of the Fathers of the Christian doctrine, was born at Caivalion in 1544, and after pursuing, for some time, a licentious course, became sensible of his misconduct, entered into the church, and was appointed canon of a cathedral. Adopting a rigorous mode of living, and distinguished by his zeal in instructing the ignorant, and exhoriating sinners to repentance, he formed a new institution for teaching the principles of the Christian religion. See Fathers of the Christian doctrine. De Bus left his sight some years before his death, which happened at Avignon in 1607. To him is also ascribed the establishment of the Ursulines in France. He published a set of “Familiar Instructions on the Christian Doctrine,” written in a simple style, and still read by pious persons. Nouv. Dict. Hist. Molins. Eccl. vol. iv.

BUSANCY, in Geography, a town of France, in the department of the Aisne, and district of Soissons; 4 miles S. of Soissons.

BUSARD, in Ornithology. See Moor BUZARD.

BUSBEC, or BOSBEK, AUGHER-GHISLEN, in Latin Bifboquins, in Biography, a celebrated traveller and ambas- sador, was the natural son of Gilissen, lord of Boscue, a village on the Lys, and born at Commines, in Flanders, in 1522. Having been legitimated by a rescript of the emperor Charles V., he pursued his studies with great diligence and
and success, in some of the most celebrated universities of Europe. He accompanied the ambassador of Ferdinand, king of the Romans, to England, and was present at the marriage of Philip and Mary; and was appointed by this sovereign, when he became emperor, as his ambassador to Sultan Solyman II. During his seven years' residence in the Turkish dominions, he acquainted himself with various particulars relating to the natural and political history of the country, and collected a great number of MSS. and inscriptions, together with drawings of plants and animals, which, from his return, to form a narrative, written in Latin, and abundantly with valuable information. He was afterwards entrusted with the education of the sons of Maximilian II., and in 1570, conducted this emperor's daughter to France, on occasion of her marriage with King Charles IX. After the death of Charles, he continued in that country as ambaassador for the queen-dowager, and also for the emperor Rodolph, till the year 1592. Having obtained permission to take a journey into the Low Countries, he was assaulted in Normandy by a party of soldiers belonging to the garrison of Rouen, and the treatment he suffered produced a degree of irritation, which terminated in a fever that proved fatal to him at the house of a lady near Rouen, in 1592. He was a man of extensive literature, and master of seven languages. The first copy of the famous "Monumentum Ancyranum," which he caused to be transcribed at Ancyra, was brought by him into Europe. Besides his "Travels in the East," he wrote "Letters from France to the Emperor Rodolph," which exhibit an interesting picture of the French court at that period. An edition of all his works was published by Elzevir at Leyden in 1633, and at Amsterdam in 1660, in 40. Gen. Dict.

BUSBY, Richard, an eminent school-master, was born at Lutton, in Lincolnshire, in 1606, educated at Westminister school as a king's scholar, and elected student of Christchurch, in 1624. At college he was esteemed a great master of the Greek and Latin languages, and a complete orator. Having taken orders, he was admitted, in 1639, to the prebend and rectory of Culworth, in the church of Wells; and in 1640, he was appointed master of Westminister school, which office he held with singular reputation for 55 years. His talents for this arduous office have been greatly extolled; though it does not now appear what was his peculiar and discriminating excellence. It has been said that he possessed a singular facility in discovering the appropriate genius of his pupils, and that he so much approved an early manifestation of wit in his scholars, as to pardon the impudent exercise of it, when he himself was its object. Perhaps, his pre-eminence to others who have occupied similar stations might have principally confided in the firmness and vigour of his mind, and in that kind of uniform and systematic discipline, attended with a considerable degree of severity, which commanded awe and maintained order. With a reference to this trait of his character, Sir Roger de Coverley (see Spectator, No. 329.) is made to exclaim, at the view of his effigies, "Dr. Busby; a great man! he whipped my grandfather; a very great man!" Pope also gives us a lively delineation of a master belonging to the Buckhian class, or of the "Genius of the public Schools," in the following appropriate lines:

"When lo! a spirited rose, whose index-hand
Held forth the virtue of the dreadful wand;
His beard'd brow a bishop garland wears,
Dropping with infant's blood, and mother's tears.
O'er every vein a shudd'ring horror runs;
Eton and Wiston flake through all their sons.

All flesh is humbled; Westminister's bold race
Shrink, and confess the genius of the place;
The pale boy-fenator yet tingling flames,
And holds his breeches close with both his hands."

Dunciad, B. iv.

Dr. Busby, however, though his fame has descended to us as that of a strict and severe disciplinarian, was not an ill-natured man; but the severity which he exercised, and which has almost become proverbial, seems to have been the result of habit and custom. It has, indeed, been animadverted upon with disapprobation by some modern writers, not only as unjustifiable, but as tending to the extreme of cruelty. Somewhat to this purpose is the reflection of Mr. Knox, in his essay on parental indulgence (Elays, vol. ii. p. 344.) who says, "Inhumanity even in a Buxby cannot admit of palliation." As a man of learning, Dr. Busby is known by several books, such as Latin and Greek grammars, and editions of the fables of Juvenal and Periplus, and of the epigrams of Martial, adapted to the use of his school, and evincing his skill and accuracy as a grammarian. After the restoration, he was made a prebendary of Westminister, as well as treasurer and canon-residentiary of the church of Wells; and in the same year he also took his degree of doctor in divinity. To the church and monarchy he was zealously attached, and he infused similar principles and spirit into the minds of his pupils, among whom were several who occupied some of the highest offices in the state. Several instances of his private and public charity are recorded. Having, by a course of temperance, notwithstanding the fatigues of his public station, attained to the advanced age of 80, he died in 1695, and was buried in Westminister abbey, where a monument, with an ample, laudatory inscription, was erected to his memory. Biog. Brit.

BUSCA, in Geography, a town of Italy, in the province of Coni; 7 miles W. of Coni.

BUSCHE, Herman Von Dem, in Latin Buschius, in Biography, a distinguished scholar, who contributed to the revival of literature, and the improvement of taste in Germany, was the descendant of a noble family in Westphalia, and born at the castle of Sassenburg in the bishopric of Minden, in 1468. After a previous course of study improved by travels through Italy, France, and Germany, and various attempts to excite among his own countrymen a taste for pure Latinity, he established a school at Cologne; but here his residence was made uneasy to him by the monks, so that in 1506 he removed to Leipzic. The ecclesiastics, however, whose Latin style he condemned, and which he wished and laboured to reform, counteracted his efforts of improvement, and he was under a necessity of often changing his abode. At Cologne, whither he returned after his travels in Germany and the Low Countries, he published "Pemptades Decimationum Praetenturam," and a "Commentary on Claudian de Rupto Proferpicis." The clergy again molested him in this city, as he had given them frequent occasion of offence by aiding Ulric Von Hetton in composing the celebrated "Epithalamium Virtutum," in which the monastic Latin of that period is the subject of ridicule. From Cologne, he removed to Wefel, where, as rector of the Latin school, he read the works of Luther, Melancthon, and Pomersonus, which had been just published. From Wefel, he went to Wittenberg; and, at the recommendation of Luther and others, the landgrave of Hesse appointed him professor of history at Marburg, where he published "A Treatise on the Authority of the Word of God." About this time he embraced the doctrines of Luther, and married in the year 1527. Towards the close of his life, he
he had an unhappy quarrel with the anabaptists at Munster, which agitated a conlilution, already enclosing by years, to fach a death, as to occasion his death, in 1744. His principal works are "Commentar. in Donatam"; "Annot. ad Solum Han-ricianus"; "Comment. in primum lib. Martianum"; "Scholia in Satirum"; "Annot. ad Juvenalum"; "Epigrammata libri ivii," "Comment. in Satyr. Periplus," Paris, 1641. He also published many Latin poems. According to the account, given of his writings by Brahms, they are fervent, lively, and animated, and display great acuteness of judgment; and his style is laid to approach nearer to that of Quintilian than to that of Cicero. Gen. Bio.

BUSCHETTO, DA DULICHO, a celebrated Greek archi-
tect, was a native of the island of Dulichio, and employed, in 1016, by the republic of Pisa, in building and ornamenting their dome or cathedral church; which he enriched with many marble columns, and which has ever since been reckoned one of the most sumptuous edifices in Italy. He died at Pisa, where was erected a monument to his memory, bearing an inscription which intimates his extraordinary knowledge of the mechanic powers. His disciples were numerous, and he is regarded as the principal founder of the science of architecture in modern Italy. Tellbien, Vies des Archit.

BUSCHING, ANTHONY-FREDERICK, a well-known

geographer, was born at Stadthagen, a town of Germany, in 1744, and instructed for several years by Hauber, afterwards pastor of a German congregation at Copenhagen, in the Greek, Chaldæan, and Syrian languages, and also in astronomy, algebra, and other branches of the mathematics. In 1734, he entered as a theological student at Halle, where he derived singular benefit from the patronage of the celebrated professor S. J. Baumgarten; and in 1745, he published his first work, which was "An Introduction to the Epistle of Paul to the Philippians," with a preface by his patron. At the close of his academic studies he began his practical lectures on Íthet, which were followed by those on the New Testament. In 1748, he was invited to super-

intend the education of the eldest son of count Lymar, at Kolbritz; where he was also employed in revising a Ger-
mun edition of Vitringa on Íthet, and where lie commenced an extensive correspondence with persons of eminence in the literary world. In the following year he accompanied count Lymar to Peterburgh; and in the course of his jour-
ythy thither lie formed the plan of a new geography, with a view of supplying the imperfections of Hubner's and Hager's works on this subject. After encountering some difficulties and discouragements in the progress of his undertaking, lie determined to devote his whole time to it; and releasing himself from his engagements as tutor, repaired, in 1752, to Copenhagen, where he enjoyed peculiar advantages for the complection of his work. During his residence in this city, he conducted a monthly publication, in which he gave an account of the state of the arts and sciences in Denmark. In 1754, he removed to Germany, and at Halle wrote a dis-

sertation entitled "Vindiciae Septentrionis," announcing his intention to commence a course of lectures on the constitution of the principal states of Europe; but he was diverted from prosecuting this plan by an invitation to the office of extraordinary professor of philosophy at Gottingen, with a salary of 200 rix-dollars to enable him to finish his geography. Accordingly, he accepted the invitation, and having settled at Gottingen, in 1754, he married in the following year a literary lady, several of whose poetical pieces he had previously published. This lady had been elected an honorary member of the German society at Gottingen, and had also been named imperial poetæ laureat by Haber-
lein, pro-rector of the university of Helmstatt. In the

prospect of a vacancy in the chair of theological professor in the university of Gottingen by the death of Motheim, Busching was advised by his friends, in 1755, to offer himself as a candidate; but as he had conceived a dislike to the theology of the schools, he thought it most honourable to announce his sentiments to the public, before he undertook the office of theological professor. Accordingly, on occasion of his applying to the theological faculty of Gottingen for the degree of doctor, he delivered to them, in M.S., his "Epitome theologicae fœlis fœris litteris concinnatae. ab omnibus rebus & verbis scholasticiis purgatae," which he afterwards printed; and, after some opposition, he obtained the degree. This dissertation was afterwards reprinted with additions; and as it contained some points of doctrine that were thought exceptional, he was accused of heterodoxy, and ordered by a refeript, issued in 1757, to "forbear publishing any thing on the subject of theology, till it had been submitted to the inspection of the privy-council of Hanover; and he was also commanded to abdize from giving theological lectures, particularly on disputed subjects. He remon-

strated against this treatment, and in a letter to Motheim, the Hanoverian minister, he expressed his purpose in the fol-

lowing declaration: "If your excellency should make me chancellor of the university, with a salary of a thousand dol-

lars, on condition of my teaching nothing but the usual theology of the schools, I would respectfully refuse your offer." At this time Busching had a salary of 400 dollars at Gottingen, besides pecuniary presents from the minister, and some privileges, which enabled him to expedite his great geographical works. In 1759, he was appointed public pro-

fessor of philosophy, and the first part of his geography had already gone through three editions. He was now at leisure to prosecute it; and, that he might not be interrupted, he declined accepting several advantageous offers. On the sub-
ject of education he had published a treatise, compiled from his lectures at Gottingen, which very much contributed to his reputation. In 1761, he undertook the office of professor to a Lutheran congregation at Peterburgh; and here he founded a school on a large scale for the benefit both of boys and girls. To this school he paid particular attention; and in 1755, it had risen to such reputation, that it con-
tained upwards of 200 scholars of various nations and sects; and Catharine II. granted to it, by the recommendation of field-marshall count Munich, several privileges. But on oc-
casion of a dispute between Busching and his congregation respecting this new institution, he abandoned the direction of it, and determined to return to Germany; though the empress Catharine was very desirous of retaining him in Rußia. Among other connections which he formed during his residence at Peterburgh, he contracted an inti-

macy with Müller, the celebrated historian and traveller; and from the information he thus obtained with regard to Rußia, he was enabled to publish his "Historical Maga-

zine." The place which he selected for his residence, with a view to the prosecution of his literary labours, was Altona; and here he continued, declining some advantageous proposals, made to induce his return to Gottingen, and refusing never to accept a pension, till the year 1766, when he was appointed director of a gymnasium at Berlin. In this capital he was treated with great respect; and besides the employment of superintending the seminary committed to his care, he en-
gaged in writing various elementary treatises for the use of the different classes in the Latin and French languages, na-

tural history, the history of religion, the fine arts, &c.; which were favourably received by the public. His inef-
fant application, however, impaired his health, and brought on a pulmonary complaint with which he was afflicted for several
several years, and which terminated his useful life, in 1793, after he had been director of the gymnasium at Berlin for 29 years. He was buried in his garden at mid-night, without pomp or ceremony, according to his own desire expressed in his will. In his own delineation of his character, he acknowledged, that though he was candid and open-hearted, affable, ready to assist others, and of a compassionate disposition, he had behaved with harshness to many persons, and on various occasions. He expresses his confidence in the Supreme Being, his firm faith in the Saviour of the world, and his satisfaction with the dispensations of providence. His temper, he says, was warm, and occasionally irritable; and his firmness had sometimes assumed the appearance of obstinacy; and his quickness had betrayed him occasionally into precipitation. “I am moderate,” says he, “in all things; contented with little, and master of my appetites. In my intercourse with the world I expect too much from myself; I am therefore often dissatisfied with my own conduct; and on that account wish to confine my intercourse within a very narrow circle, and to thin society. I am free from pride, but not void of ambition, though I often struggle with this passion, and on reflection endeavour to suppress it. I am so much attached to labour, that it seems to me a requisite to life, and that my impulsion to it is greater than to any transient pleasure whatever.”

Bushwhacking was a ready writer, so that his literary productions amounted to more than a hundred, consisting of elementary books, relating to schools and education, and such as were theological, historico-geographical, and biographical. Although his works confer considerable merit, they abound with repetitions, and his style is diffuse and inelegant. But the department in which he principally excelled was that of geography. His “Geography” comprehending Europe and the Russian part of Asia, contains a variety of interesting and useful information; and was published after the year 1754, at different periods, in single volumes, of which eight editions were published during the life of the author. His “Magazine for Modern History and Geography” was comprised in 22 parts, 440, and published between the years 1767 and 1788: and his “Weekly Account of Mr. Map’s” appeared in detached parts, during an interval of 13 years, from 1773 to 1787. Gen. Biog.

BUSCHOFF, in Geography, a town of the Duchy of Coultre; 8 miles S. of Seeburg.

BUSCHWEILER, a town of France, in a district of the same name, in the department of the Lower Rhine, formerly Afflacht.

BUSE, in Ornithology. See Falco Buteo.

BUSELAPHUS Cajus, in Zoology. See Antilope Eubalis.

BUSENTO, in Geography, a river of Italy, which runs into the sea, near Polichino.

BUSEY, a town of the island of St. Domingo, situate near Port-au-Prince, and having a fort.

BUSH, a tufted or thickly covered mass of boughs or branches.

Bush also denotes a crowned frame of wood hung out as a sign at taverns. It takes the denomination from hence, that, anciently, signs where wine was sold were bushes chiefly of ivy, cypress, or the like plants, which keep their verdure longest, and hence the English proverb “Good wine needs no bush.”

Bush, in Geography, the name of a river in Ireland, which after taking a winding course through the northern part of the county of Antrim, falls into the north channel about a mile west of the Giant’s Causeway.


Bush-harrow, in Agriculture, an implement constituted

of any sort of bulky wood, interwoven in a kind of frame consisting of three or more crooks bars, fixed into two endpieces in such a manner as to be wider behind than before, and very rough and bulky underneath. To the extremities of the frame before are generally attached two wheels, about eight or twelve inches in diameter, upon which it moves; sometimes, however, wheels are not employed, but the whole rough surface is applied to, and dragged on the ground. See Harrow.

Bush-harvesting the operation of harrowing with an influence of the kind described above. It is chiefly necessary on grazed-land, or such as has been long in the state of pasture, for the purpose of removing the worm-calls and of breaking down and reducing the lumps and clods of the manures that may have been applied, and thereby rendering them more capable of being washed into the ground, or, in some measure, for removing the mossy matter that may have formed on the surfaces of such lands.

A rather dry time should be chosen for the performing of the busheif, in order that these substances may be in a more pulverizable state, and of course more readily broken down and applied to the roots of the grazed plants. It should never be attempted when there is such a degree of moisture as to produce clodginively.

Bush-vetch, a plant of the vetch kind, which may probably be cultivated to advantage by the farmer, where lucerne and other plants of a similar nature cannot be grown. It is observed by Mr. Swayne, in the third volume of the letters and papers of the Bath Society, that “its root is perennial, fibrous, and branching; the stalks many, some of them shooting immediately upwards, others creeping just under the surface of the ground, and emerging, some near to, and others at a considerable distance from the parent stock. The small oval leaves are connected together by a midrib, with a tendril at the extremity; the flowers are in shape like those of the common vetch, of a reddish purple colour; the first that blossoms usually come in pairs, afterwards to the number of four at a joint; the pods are much shorter than those of the common vetch, larger in proportion to their length, and flatter, and arc of a black colour when ripe; the seeds are smaller than those of the cultivated species, some speckled, others of a clay colour.” Being a perennial plant, it should be seen, he thinks, “to be a very proper kind to intermix with grass seeds for laying down land intended for pasture; and that it is as fitly entitled to this epithet as any herbaceous plant whatever, having observed a patch of it growing in one particular spot of his orchard for 14 or 15 years past. It is not only a perennial, but an evergreen; it shoots the earliest in the spring of any plant eaten by cattle with which he is acquainted, vegetates late in autumn, and continues green through the winter, though the weather be very severe; add to this, that cattle are remarkably fond of it.” See ViCIA.

These peculiarities should make it particularly valuable to the farmer as a green food for sheep in the winter and spring, when food of that denomination is so exceedingly scarce.

The fame writer has likewise observed, that, “the chief reason which has hitherto prevented its cultivation has been the very great difficulty of procuring good seed in any quantity. The pods,” he finds, “do not ripen altogether; but as soon almost as they are ripe, they burst with great elasticity, and scatter the seeds around; and after the seeds have been procured, scarce one-third of them will vegetate, owing, as he supposes, to an internal defect, occasioned by certain infections making them the nBs and food for their young.”
Du-Cange derives the word from *bufellus, bufellas, or bis-
fellus*, a diminutive of *bus, or busa*, used in the corrupt
Latin for the same thing: others derive it from *bufalus, an
urn*, wherein lots were cast; which seems to be a corruption
from *busus*.

*Bufellas* appears to have been first used for a liquid mea-
Sure of wine, equal to eight gallons. "Odo libre faciunt
galones vini, & octo galones vini faciunt buffellum
London, quod est octo pars quartae." The word was soon after
transferred to the dry measure of corn of the same quan-
tity. — "Pondus octo librarum frumenti facit buffellum, de
quibus odo conficit quartarium."

By 12 Hen. VII. cap. 5, a bushel is to contain eight gal-
loons of wheat: the gallon, eight pounds of wheat; tro-
lyph-weight; the pound, twelve ounces troy-weight; the ounce,
twenty shillings; and the shilling, thirty-two grains, or corns
of wheat growing in the middle of the ear.

This standard bushel is kept in the Exchequer; when, be-
ing filled with common spring water, and the water measured
before the houfe of commons in 1669, in a regular pa-
rallelpiped, it was found to contain 2143.6 fold inches;
and the said water, being weighed, amounted to 11 13 ounces
and 1 penny weights troy. Grevcs, Orig. of Weights,
P. 25.

By act of parliament made in April 1697, it was deter-
mined, that every round bushel with a plain and even
bottom, being made 15 inches wide throughout, and 8
inches deep, should be esteemed a legal "Winchester buffel,"
according to the standard in his majesty's exchequer. A
veil thus made will contain 2150.42 cubic inches; and
consequently the corn gallon contains only 2083 cubic inches.
Ward's Mathematics, p. 36.

Besides the standard or legal bushel, we have several local
bushels, of different dimensions in different places. At
Abingdon and Aredor, a bushel contains nine gallons;
At Appleby and Penrith a bushel of peas, rye, and
wheat, contains 16 gallons; of barley, big, malt, mixt
malt, and oats, 20 gallons. A bushel contains at Carlile,
24 gallons; at Chelte, a bushel of wheat, rye, &c.
contains 32 gallons, and of oats 40; at Dorchester, a bushel
of malt and oats contains 20 gallons; at Pembury, the
bushel of bricken malt is 16 gallons; of other things 20,
and usually 21 gallons; at Kingston upon Thames, the
bushel contains eight and a half; at Newbury, 9; at
Wycom and Reading, eight and three fourths; at Stamford,
16 gallons. Hearne, Collect. tom. i. p. 36, p. 44.

At Paris, by the old measure, the bushel was divided into
two half bushels; the half bushel into two quarters; the quar-
to into two half quarters; the half quart into two litrons;
and the litron into two half litrons. By a sentence of the
pro-
voit of the merchants of Paris, the bushel was to be eight
inches two lines and an half high, and ten inches in diameter;
the quart four inches nine lines high, and six inches nine
lines wide; the half quart four inches three lines high,
and five inches in diameter; the litron three inches and an
half high, and three inches ten lines in diameter. — Three
bushels made a minot, six a mine, twelve a septer, and an
hundred and forty-four a muid.

In other parts of France, the bushel varied: fourteen one
eight bushels of Amboise and Tours made the Paris sep-
tier. Twenty bushels of Avignon made three Paris sep-
tiers. Twenty bushels of Blois made one Paris septier.
Two bushels of Bourdeaux made one Paris septier. Thirty-
two bushels of Rochel made nineteen Paris septiers. "Oats
were measured in a double proportion to other grains;
so that twenty-four bushels of oats made a septer, and
268 a muid. The bushel of oats was divided into four pi-
cotins,
cotious, the picotin into two half quarts, or four litrons. For salt, four bushels made one minot, and fix a peck. For coal, eight bushels made one minot, sixteen a mine, and 320 a muid. For lime, three bushels made a minot, and forty-eight minots a muid. See Measure and Weight.

By 31 G. III. c. 30, the bishul by which all corn shall be measured and computed for the purposes of this act, shall be the Wincheller bushel, and a quarter shall be deemed to consist of 8 bushels: and the justices of each county, and the mayor of such cities and towns as are counties of themselves, or enjoy exempt jurisdictions, and from which returns are by this act directed to be made, shall cause a standard Wincheller bushel to be provided and kept; and all measures shall be computed by the hricken and not by the heaped bushel: and where corn shall be sold by weight, 47 lb. avoirdupois of wheat shall be deemed equal to one Wincheller bushel; and 55 lb. of rice; 40 lb. of barley; 42 lb. of beer or biggs; and 35 lb. of oats; and further, 50 lb. of wheat-meal; 45 lb. of wheat-flour; 5 lb. of rice-meal; 4 lb. of barley-meal; 4 lb. of beer or bigg meal; and 2 lb. of oat-meal, shall be deemed equal to every bushel of corn unground. And for the more easy measuring ground corn in sacks, the proper officer may make choice of and weigh two sacks out of any number not exceeding twenty, and so in proportion; and thereby compute the quantity of the whole. And the inspector of corn returns shall make a comparison between the Wincheller measure and that commonly used in the city or town for which he is inspector; and within one month after his appointment, shall cause a statement in writing of such comparison to be hung up in some conspicuous place in the market and town-hall of such city or town; and shall renew the same if defaced, and shall return a copy thereof, to the receiver of corn returns.

BUSHING. See COAKING.

BUSHMILLS, in Geography, a small town of the county of Antrim, and province of Ulter, in Ireland, where there is a bridge over the river Bush. In the bed of the river, near the bridge, are ranges of basaltic columns, similar to those of the Giant's-caulfeay; and also on the summit of an adjoining mountain. In the neighbourhood is the ruin of the castle of Dunluce, which is situated in a singular manner on an isolated abrupt rock, perforated by the waves; which has formed under it a very spacious cavern. The only approach to this castle is along a narrow wall, built somewhat like a bridge; which circumstance must have rendered it almost impregnable before the invention of artillery. Bushmills is 20 miles north of Dublin, and about 6 miles east of Coleraine. Hamilton's Antrim.

BUSHWICK, a small but pleasant town of America, in King's county, Long Island, New York. The inhabitants, 540 in number, are chiefly of Dutch extraction; and of these 99 are electors.

BUSHY RUN, a north-east branch of Swickley creek, near the head of which is General Boquet's field. The creek runs south-easterly into Youghiggy river, 20 miles S. E. from Pittsburg, in Pennsylvania.

BUSIR, or BUSIRS, an anciently Busiris, the name of four different towns or villages of Egypt, viz. one on the west side of the Nile, at a small distance from the pyramids, and 18 miles S. W. of Cairo. N. lat. 29° 56'. E. long. 31° 6'.—Alfo, another on the west side of the Nile, 7 miles N. W. of Achmounain or Hethamunene. N. lat. 28° 15'. E. long. 30° 44'. See BUSIRS.—A third near the western banks of the Nile, 12 miles S. W. of Athish.—A fourth in the Delta, on the western side of the salt branch of the Nile about 5 miles S. of Semmned, mentioned by Herodotus (I. ii. c. 530). See BUSIRS.

BUSIRS, in Entomology, a species of Papilio, (Hesp. Urb.) with oblong entire wings of a black colour; on the anterior pair two yellow spots and dots; posterior ones with a yellow disk. This is a native of India. Donov. Inf. Ind.

BUSIRS, in Ancient Geography, a city of Lower Egypt, now Busiri, on the Burtirific branch of the Nile, and capital of the Burtirific name in the Delta; said to have been built by Burtiris, a cruel tyrant, who was slain by Hercules; but Strabo (Geog. vol. n. p. 115) denies the existence of such a person. Busiris had a large temple erected to her in this city, some ruins of which are said to be still remaining. The Burtiris of the Thebais, the second Burtiris mentioned in the preceding article (Busiri), having revolted from the Romans, was destroyed by Diodorean in his expedition against Egypt, A. D. 296.

BUSIRS, in History, the name of several kings, who, according to Diodorus Siculus (I. i. c. 17) reigned in Egypt, one of whom is said to have built the magnificent and powerful city to which the Greeks gave the name of Thebes. He acknowledges, however, that the barbarity of a certain Burtiris was fabulous; and that the fable was grounded on a custom practised in Egypt, of sacrificing all the red-haired people they met with, most of whom were strangers, as the natives of the country were scarcely ever of this colour, to the names of Ophiris: Burtiris signifying, in the Egyptian tongue, the fepulchre of Ophiris. Virgil ranks the barbarity of this tyrant among the fictions of the poets. Virgil, however, has been cenured for applying the epithet "illaudatus" to Burtiris (Georg. I. iii. v. 3); as it does not sufficiently express the terror which the cruelty of such a monarch tended to excite. Aulus Gellius (I. i. c. 6) has endeavoured to vindicate Virgil's use of this term, as implying a tacit condemnation and detestation of the character of Burtiris, because a person who, in all things, and at all times, remains unpraised, "illaudatus," must be the word and the most wicked of wretches; and if "illaudare" be considered as signifying, in old Latin, to name, "illaudatus" being the same as "illaudabilis," implies, in Virgil's use of it, that Burtiris did not deserve to have his name repeated. Bayle, diffatisfied with these apologies for the Roman poet, suggests that this verse is one of those in which poets are forced, upon account of the length or shortness of syllables (the different feet) to employ unlees words, more expressive, or even such as prejudice the sense. Although Istocrates made a panegyric on the tyrant Burtiris, Bayle suggests that he only intended to confine the impertinent panegyric of Polybius, a teacher of oratory in the island of Cyprus, who had written the eulogium of Burtiris, and the acculation of Socrates. Melanchthon, from his researches (in Chron. lib. ii.) concludes that Burtiris was probably the Pharaoh who occasioned the destruction of the children of the Israelites. Orfeus places him 775 years before the foundation of Rome; and, according to Ezechius, he was contemporary with Joachs, about 700 years before Romulus built Rome. Gen. Dict.

BUSITTIS, in Geography, a district of Arabia Deferta, said to have derived its name from Bus or Buz, Nahor's second son, and to have been the country of Eliah, the fourth interlocutor in the history of Job; called by the LXX. Buzites.

BUSK, a town of the duky of Courland; 18 miles S. S. W. of Mitaw.

BUSKIN, Cothurnus, an article of dress, somewhat in the manner of a boot, covering the foot and mid-leg, and tied beneath the knee: very rich and fine, and used principally on the stage by the actors in tragedy.
The buffalo is said to have been first introduced by Ezechiel; it was of a quadrangular form, and might be worn indifferently on either leg. Its hide was made to thicken, as, by means of it, men of ordinary stature might be raised to the pitch and elevation of the heroes they personified; in which it was disfigured from the foot, worn in comedy; which was a low, popular shoe. By aid of this appendage, the stature of the tragic actors was frequently increased to four cubits, or about six English feet and half an inch, the height of Hercules and the most ancient heroes. The buffalos raised them four or five inches; while guntlets lengthened their arms; and their broad, flat, and every part of the body, were rendered apparently thicker in proportion.

Doppler observes, that the buffalo was not confined to actors only, but girls likewise used it to raise their height; and travellers and hunters to defend themselves from the aire, &c.

As the buffalo was the disfiguring mark of tragedy on the stage, we find in classic authors frequently used to signify "tragedy itself," and to express strong and vehement declamation or lofty title, which was usually affected by these actors of colossal figure.

BUSKY, in Geography. See Buck.

BUSLEIDEN, John, in Biography, a native of Arlon, in Luxembourg, became master of the requels in the court of Charles V. and counsellor to the sovereign council of Mechlin. He was also employed in embassies to pope Julius II. and the kings Francis I. and Henry VIII. As a man of literature he was disfigured, and he was an intimate friend of several learned men, particularly of Erasmus and Sir Thomas More. He founded, in the University of Louvain, the college of the three tongues, for teaching Latin, Greek, and Hebrew. On his journey to Spain, in 1517, he fell sick, and died at Bourdeaux. The only piece of his writing is a letter prefixed to More's Utopia. Gen. Dict.

BUSODRA, in Geography, a town of Asiatic Turkey, in the Arabian Iraq; 96 miles N.W. of Bafitra.

BUSS, in Navigation, a small ship, used by the English and Dutch in the herring-fishery, which fee.

The word is originally Flemish, but, or boys, which signifies the same.

The ship has three short masts, each in one piece. On each is carried a square-sail, and sometimes a top-sail above the main-sail. In fine weather are added a foot of fludding to the lower sails, and a driver. Occasionally is also added a jib forward, upon a small bowsprit or spar. To hoist their nets, the seamen lower the main and fore-masts, which fold on deck by large hinges, and flow aft upon crotchets. The busses is commonly from forty to seventy tons burthen. It has two apartments, one forward, and the other aft; the former of which is used as a kitchen. Every bus has a master, an officer, a mate, and seamen in proportion to the size of the vessel. The master commands in chief, and without his express orders the nets can neither be cast, nor taken up; the officer has the command after him; and the master is next in order, whose business is to see the seamen manage their rigging in a proper manner; to attend to those who draw in their nets, and those who kill, gut, and cure the herrings, as they are taken out of the fen. The seamen generally engage by the voyage; and their provisions consist commonly of biscuit, oat-meal, and dried or salt and fresh fish.

Buss, Buffa, is also the name of a large fort of vellel of war, in use in the middle age, spoken of by antiquaries and historians under the several denominations of buffa, buffa, burcia, buza, buca, and bueca.

BUSSCHOFF, Herman, in Biography, a Dutch physician, was born at Utrecht, in the beginning of the 15th century, and resided many years at Batavias, in the East Indies; and while in that country, he says, to make use of an Indian doctress, to cure him of the gout, by burning little conical pellets of moxa (the pith of a species of artemisia) on the parts affected; a mode of treatment in that and various other complaints, in great repute in China and Japan. The operation fails, he says, about half an hour, and is attended with very little pain. It leaves small scars on the parts, which in a few days are digested out, and the small ulcers that remain heal under any common applications. As soon as the operation was over, he fell into a profound sleep, which lasted twenty-four hours. On waking he was entirely free from the pain of the gout, and the swelling and tenderness of the parts which remained disfigured in a few days. A second attack of the gout, which occurred some years after, was cured in the same manner. He had known, he says, febrile tumours, nodes, and lethargies relieved by the same application. Having collected accounts of a sufficient number of cures effected in this way, he wrote a small treatise on the subject, in the Dutch language, and sent the manuscript to Holland to be printed. He also sent a parcel of the moxa, and of matches made of huckle-wood, which the Indians use to light the pellets with. The book was printed in 1675, at which time Sir William Temple was ambassador at the Hague, and on his being attacked with the gout (it was his first), he was easily induced to try the remedy, which procured him the promised relief. The following year he published an essay on the cure of the gout by moxa, with an account of the method of using it, and the benefit he had received from it. The same year Busschhoff's book was translated into English, on the recommendation, Sir William says, of the professors of Greemah College, but no notice is taken of them in the title or preface to the translation. It was published in 12mo, with chirurgical observations by Henry Van Rooyenhuyzen. The remedy became for a time extremely popular here; but, not being found to answer the expectations that had been raised, it is long fallen into disuse. It is probable, however, that in recent cafes, and in constitutions not broken by in temperament, some benefit might accrue from the application. Haller. Bib. Med. The Author's Preface, &c.

BUSSET, in Geography, a town of France, in the department of the Ailler, and district of La Paille; 5 miles S. E. of Caffel.

BUSSETTO, a town of Italy, and capital of a small district in the duchy of Placenza; 8 miles S. E. of Cremona.

BUSSI, Bussi, or Bosissi, an island of Africa, in the Atlantic, near the island of Biafo.

BUSSIÈRE-BALDI, a town of France, in the department of the Dordogne, and chief place of a canton in the district of Nontron; 8 miles N. of it. The place contains 1,230, and the canton 7,049 inhabitants: the territory includes 150 kilometres, and 9 communes.

BUSSIÈRE-CALAND, a town of France, in the department of the Upper Vienne, and district of Limoges; 5 leagues S. W. of it.

BUSSIÈRE-Poitevine, a town of France, in the department of the Upper Vienne, and district of Bellac; 10 miles N. W. of it.

BUSSIÈRES, John de, in Biography, a distinguished writer of France, was born in 1607, at Ville-Franche, in Beaulojolais, and entered among the Jesuits. His poems, written in French, are forgotten; but his Latin poems, first printed at Lyons, in 1658, 12mo, are still read. Of thefe the principal is "Scanderbeg," an heroic poem in 8 books; besides which there are four Delivered, Some Idylls and Elegies. Bussieres likewise wrote a "History of France," 6 vols.

2 vols.
BUS

2 vals. 4to.; and an abridgment of universal history, entitled "Heloquius Historiarum." He died in 1678.

BUSIETE, in Geography, a town of France, in the department of the Upper Marne, and district of Langres; 4 leagues S.E. of Langres.

BUSIEURES, by corruption from Busfora in Persia, whence they were originally brought, a name given by some to that species of pigeon called the carrier.

USOVAZ, in Geography, a town of Bosnia; 20 miles S. of Serosio.

Bussy le Grand, a town of France, in the department of the Côte d'Or, and district of Samur, three leagues N.E. of it.

BUST, in Geography. See Bosq.

Bust, or Busts, in Sculpture, that portion of the human figure which comprises the head, neck, breast, and shoulders; the Italians also apply this term to the human figure as low as the hips, with or without the head and arms. This definition of the bust agrees with that species of sculpture which represents the portraits of illustrious Romans, either entirely round and mounted on pedestals, or in alto relievo on the sides of sarcophagi, or other sepulchral monuments, and was most likely of Roman production; very different from the Erma of the Greeks, which we call Terms: the Erina was a four square prop with the head of some divinity or man upon it.

The etymology of the Italian busto is perhaps from the Latin, bullum; Fellus says "the place is properly called bullum, in which the dead is burnt and buried, (qua bene ufilum) as it well burnt; where it is only burnt, but buried in another place, the first is said to be ufluma, (ub uenire) burning; but bullum, the place of burial, which we call the sepulchre:" as many of these busts have been principal ornaments of the sepulchre, they may have derived their name from the situation, or, on account of their confinement in it, have had its name transferred to them. The series of Roman emperors in the capitol, and the fine bronze busts in the king of Naples's collection at Portici, exhibit examples of every species in this kind of sculpture. Bernini and other artists among the moderns, have likewise left examples of the several varieties.

Busts, Communicative, in Aesoplices, are two heads of plaster of Paris, placed on pedestals on the opposite sides of a room, and connected with each other by means of a tin tube about an inch in diameter, passing from the ear of one head, through the pedestal under the floor, and ascending to the mouth of the other. The end of the tube which adjoins the ear of the one head, should be considerably larger than the end which proceeds from the mouth of the other. The whole apparatus should be so contrived, that there may not be the least filpulsion of any communication. If a person speak with a low voice into the ear of one bust, the sound will be reverberated through the length of the tube, and will be distinctly heard by every one who shall place his ear to the mouth of the other. By means of two tubes, one passing to the ear and the other to the mouth of each head, two persons may converse together, by applying their mouth and ear reciprocally to the mouth and ear of the bust; and at the same time, other persons that stand in the middle of the chamber, between the heads, will not hear any part of the conversation. If a bust be placed on a pedestal in the corner of a room, and two tubes, such as those above mentioned, be so disposed, that one may pass from the mouth, and the other from the ear of the busts through the pedestal and the floor, to an under apartment, we shall obtain what is called the "Oracular head." There may be likewise wires that pass from the under jaw and the eyes of the bust, by which they may be easily moved. A person placed in the under room, who, at a given signal applies his ear to one of the tubes, will hear any question that is asked; and may immediately reply, favouring the deception by moving at the same time the mouth and the eyes of the bust, by means of the wires. Hooper's Rational Recreations, vol. ii. p. 203, &c.

BUSTA Gallia, a place in ancient Rome, wherein the bones of the Gauls, who first took the city, and were slain by Camillus, were deposited. It differed from

Busta Gallosum, a place on the Appennines, thus called by reason of many thousands of Gauls said there by Fabius.

BUSTARD, in Geography, a river of Upper Canada which runs into the river St. Lawrence, westward of Bleek river, in a bay of its own name. It communicates within land, with several lakes in its extended course; and at its mouth lies the Olerus islands. N. lat. 49° 20'; W. long. 68° 5'.

Bustard is also a bay on the east coast of New Holland, with a good anchorage in five fathoms. S. lat. 24° 4'; E. long. 151° 42'.

Bustard, in Ornithology. See Otis.

BUSTA, in Geography, a town of European Turkey, in the province of Albania; 52 miles W. S. W. of Delfine.

Busto Granda, a town of Italy, in the duchy of Milan; 16 miles N.W. of Milan.

BUSTURAIIE mecha, a kind of public profiteers, who frequented the bulia or tombs, which it seems were ordinarily places of rendezvous for persons of this description. Others suppose that these were women hired to attend a funeral, and lament the loss of the deceased.

BUSTURI, a kind of gladiators, among the ancient Romans, who fought about the bulia, or pile, of a deceased person, in the ceremony of his obsequies.

The practice at first was, to sacrifice captives on the tomb, or at the bulia, of their warriors: instances of which we have in Homer, at the obsequies of Patroclus, and among the Greek tragedians. Their blood was supped to appease the infernal gods; and render them propitious to the names of the deceased. In after-ages, this custom appeared too barbarous; and in lieu of these victims, they appointed gladiators to fight; whose blood, it was supped, might have the same effect.—According to Valerius Maximus and Florus, Marcus and Decius, sons of Brutus, were the first, at Rome, who honoured the funeral of their father with this kind of spectacle, in the year of Rome 480.—Some say, the Romans borrowed this custom from the Hetrurians; and they from the Greeks.

Bustum, in Antiquity, denotes a pyramid or pile of wood, whereon were annually placed the bodies of the deceased, in order to be burnt. The Romans borrowed the custom of burning their dead from the Greeks. The deceased, crowned with flowers, and drest in his rich bos habits, was laid on the bulia. See Burning. Some authors say, it was only called bulia, after the burning, quas bene uflum; before the burning it was more properly called pyra; during it, rogus; and afterwards bulia. When the body was only burnt there, and buried elsewhere, the place was not properly called bulia, but ufluna, or uflurium.

Bustum, in the Campus Martius, was a structure whereon the emperor Augustus first, and, after him, the bodies of his successors were burnt. It was built of white stone, surrounded with an iron palisade, and planted within face with alder trees.

Bustum was also figuratively applied to denote any tomb. Whence these phrases, facere bulium, violare bulium, &c.
But of an altar, was the heath or place where the fire was kindled.

BUSLGINO, in Geography, a settlement of Siberia, on the Indigida: 283 miles N. N. E. of Laibichevick.

BUSULUTZ, a district of Ruffia, in the province of Oemmarah and government of Ufa, seated on the Sacramento, near the river Bubulis: 174 miles S. W. of Ufa.

BUSZKA, a town of Poland, in the paleatitude of Bracian: 32 miles S. W. of Breslau.

Butcher, a person who slaughters cattle for the use of the table, or for sale. The method of slaughtering cattle by a separation of the spinal marrow, is now fully practised in many parts of this world, and is much commented on the ground of humanity, as well as of expedient. Lord Somerville in his work "On the System of the Board of Agriculture," informs us, that with a view to the introduction of it into this kingdom, he made it his business, during his residence in Portugal, to have a person instructed in the use of the knife which is used for this purpose with great adroitness. He has given a plate exhibiting the mode of operation, as well as the size and form of the knife with which it is performed. The animal, in this mode of slaughtering, is unmercened from head to foot at the first touch of the spinal marrow: and the term of "laying down cattle," which expresses the operation, be speaks the mildness with which it is executed. The person employed in this business has "laid" without being head-lincd, 15 oxen in a row, with surprising regularity and expedition, and their fall is almost instantaneous. Holding them only by the horn in the left hand, and banding in front of the animal, he passes the knife over its brow, through the vertebræ of the neck, into the spine. The method in that country of the cattler walking at the head of his oxen, when at work, may probably induce them to stand more quietly than would otherwise be the case. Should that be the fact, cattle in this country may be head-lincd as usual, and the operation would then be as safe as it is easy.

Among the ancient Romans there were three kinds of established butchers; viz. two colleges, or companies, composed each of a certain number of citizens, whose office was to furnish the city with the necessary cattle, and to take care of preparing and vending their flesh. One of these communities was at first confined to the providing of hogs, whence they were called fauri; and the other were charged with cattle, especially oxen; whence they were called pecuari, or boariti. Under each of these was a subordinate chief, whose office was to kill, prepare, &c. called lati, and sometimes carnifices. Drifonius, Modius, and others, mention a pleasant way of selling meat, used for fome ages among this people: the buyer was to shut his eyes, and the seller to hold up some of his fingers; if the buyer guessed right, how many it was the other held up, he was to fix the price; if he miskook, the seller was to fix it. This custom was abolished by Apponius, prefect of Rome; who in lieu thereof introduced the method of selling by weight.

The Jews have their own butchers; as they have a peculiar method of selling and preparing their meat. The exercise of this office has been confidered among them as singularly important, and requiring previous instruction, for which, application has been sometimes made to a learned rabbi, and for which, a formal licence has been thought necessary.

Some derive the term butcher from bucarius, of buca, mouth; others from gobus, feller of cattle.

The French call a place set apart either for the slaughter of cattle, or expending their flesh to sale, a butchery. Butcherie. The English distinguish, calling the latter a fleshy store, or market, the former a slaughter-house.—Nero built a noble edifice of this kind at Rome: on which occasion was struck that medal, whose reverse is a building supported by columns, and entered by a person of four steps; the legend, MAC. AVG. S. C. Mixtum Agripi Senatus Consulto.

In London, the furnishing of the markets with butcher's meat is cantoned into several offices. We have carcase butchers, who kill the meat in great quantities, and sell it out to another sort called retail butchers, dispersed in all outports, villages, and towns, near the city. There are besides, cow-jobbers, or fakemen, who buy and sell cattle, acting between the butchers and the breaders, or feeders. Something like this also obtains at Paris.

The company of butchers was not incorporated until the third year of King James I., when they were made a corporation by the name of master, wardens, and commonality of the art and mystery of butchers: yet the fraternity is ancient. Their arms are azure, two axes faltier-wise argent, between three hors' heads couped, attired or, a horse's head gules, between two garbes vert. See Company.

There are some good laws made for the better regulation of butchers, and for preventing the abuses committed by them. By Stat. 2 and 3 Edw, VI. 15, revived, continued, and confirmed by Stat. 22 and 23 Car. II. c. 19, now expired, butchers (and others) concurring to sell their victuals at certain prices are liable to 12s. penalty, or 20 days' imprisonment, with merely bread and water, for the first offence; 20l. or the pillory, for the second offence; and 40l. or pillory, and the loss of an ear, and infamy, for the third offence: the offence to be tried by the lieutenants or less. By Stat. 4 Hen. VIII. c. 3, no butcher shall flay any beast within any walled town, except Berwick and Carlisle, on pain of forfeiting for every ox 12d., for every cow or other beast 8d. By the ordinance for bakers, butchers, &c. butcher selling swine's flesh meagled, or dead of the murrain, or that buy flesh of Jews, and sell the same to Christians, for the first time, shall be grievously amercid, the second time suffer the pillory, the third time be imprisoned and fined, and the fourth time forswear the town.

By Stat. 3 C. I. c. 1. butchers are not to kill or sell meat on Sundays, on the penalty of forfeiting 6s. 8d., one third to the informer, and two thirds to the poor. By 1 Jac. I. c. 22, and 9 Ann. c. 11, regulations are made as to the watering and grazing of hides, and penalties annexed to the violation of them; and also to the selling of mufled or rotten hides, and also by the said Stat. 1 Jac. I. no butcher shall be a tanner or currier. See Cattle, Foresetting, and Victuals.

Butcher-bird, in Ornithology. See Lanius.

Butcher's broom, in Botany. See Ruscus aculeatus.

Butcher's Island, in Geography, a small island of the East Indies, about two miles long and one broad, distant about three miles from Bombay, and deriving its name from the cattle that are kept there for the use of that settlement. It has a small fort.

Butte, an island in the Frith of Clyde, situated a little to the west of Renfrewshire, and a little south of Argyllshire. The name at different periods has been variously written, as Betis, Bobs, Botes, and Botes, and is denominated Bates by the anonymous geographer of Ravenna. This island was from "very early times part of the patrimony of the Stuarts; large portions of it were granted to Sir John Stuart, son of Robert II., by his beloved mistress Elizabeth More; and it has continued in the same family to the prentent time." Butte life occupies an area of ground measuring on an average about 18 miles in length, by 4 in breadth, and containing about 20,000 acres, and 4000 inhabitants. The northern
northern parts of it are rocky and barren, but its southern parts are molly inclosed, well cultivated, and fertile. The isle is divided into two parishes, in one of which is the royal burg of Rathaephy, which is the principal town of the island and of the isle. The coast is rocky, and indented with several small harbours, from which are annually fitted out a number of busses for the herring-fishery. This is the principal trade of the isle, and has been promoted even at the expense of agriculture. The climate, as usual in small islands, is necessarily damp. Its produce is barley, oats, and potatoes; turnips with artificial grusses have been late cultivated. Indeed, from the example and recommendation of the marquis of Bute, who is the principal proprietor of the isle, and derives his title from it, the system of agriculture pursued here is far before most of the northern counties, and such as is calculated to obtain the greatest produce from the lands. The name nobleman has also directed the fishermen and farmers to be diligent, and each to attend to his respective pursuit. The farms are molly small, as few exceed the rent of sixty pounds a year, but the medium is about twenty-five. Arable land was let, when Mr. Pannant visited the isle, at nine or ten shillings an acre, and the price of labourers was eight pence a day. Rents were molly paid in money, and the rent-roll of the isle was about 400l. a year. The government of Bute is managed by a deputy-thief, who is always resident, and determines most petty actions; but criminal actions are carried to Inverary, where the judges of the court of judicature meet twice a year. The marquis of Bute is admiral of the county, by commission from his majesty, and not at all dependent on the lord high admiral of Scotland.

He has, therefore, full powers, either in himself, or by deputy, to judge and decide on all crimes of murder, piracy, &c. Among the remains of antiquity is part of a Druidical circle at Langal chord. At Kin-garth are the ruins of a church, of which two cemeteries remain. One of these was exclusively appropriated to the interment of females, because, observes Mr. Pannant, 1 in old times certain women being employed to carry a quantity of holy earth, brought from Rome, lost some by the way, and so incurred this penalty for their negligence, that of being buried separate from the other sex.”

Near this place is a circular enclosure called the Devil’s Cauldron; it is made of stones piled together without mortar, but trimmed in the inside in a smooth and regular manner. The walls are about seven feet in height, and ten feet in thickness. The area is thirty feet in diameter, and the entrance gradually narrows, from the outside of the wall towards. Near Rothsay are the remains of an ancient cist, with a fort, barracks, and drawbridge, which was formerly the residence of the kings of Scotland. See Rothesay.

Bute, a county or shire of Scotland, comprehending the above isle, with those of Arran, the two Cumbrays, and Inchmarnock. This county, with that of Caithness, combine to fend one member to parliament alternately. See Pannant’s Tour in Scotland, vol. ii. Sinclari’s Statistical Account of Scotland.


Species, i. B. frondosa. Roxb. Corom. i. tab. 21. (Palafox, Rox. Rheede. Mall. 6. tab. 16, 17. Arbor filipoo ta hishica indica, Ray Hift. 1721. Erythrina monosperma, La Marek Eucec. tom. ii. p. 391.) “Little branches pubescent; leaflets roundish, emarginate.” Willd. An evergreen tree. Stem about fifteen feet high; outer bark, cimeneous, dark, brittle, clothed with a dark red cuticle; inner bark soft, but thick, from which, when cut, exudes a juicy blood-red juice, of a sweetish taste. Leaves alternate, petiolated, growing by threes, about ten inches long; leaflets about four inches long, even above, transversely knife-shaped, reticulated between the nerves; the terminal leaflet at right angles with the other two, wedge-shaped at its base; the lateral leaves larger on the exterior side than on the interior, with short and thick petioles. Flowers red, rather large, in racemes, on alternate, or scattered, somewhat tomentose, peduncles. Calyx short, five-toothed. Wings of the corolla a little shorter than the standard; keel shorter than the wings. Legumes elliptic-oblong, pubescent, from four to five inches long, and near two inches broad. Ray from Rheede, and La Marek from a dried specimen, communicated by Juffieu. A native of the East Indies, on the coasts of Malabar and Coromandel.

Obf. Juffieu informed La Marek that from this tree is procured the gum lac of commerce; and in fact there are found here and there, on the branches of most of the species, in his Herbarium, redumous lumps which greatly resemble that substance. These lumps are much divided, and not in cuticle masses, like those of gum or resin which proceed from various trees; so they do not appear to be the infusificated juice mentioned by Rheede, but, agreeably to the common opinion with respect to gum lac, may be elaborated by a species of ants, somewhat in the same manner as bees form their wax, and discharged on the same tree from which the crude juice was obtained.

2. B. superba. Roxb. Corom. i. tab. 22. “Little branches smooth; leaflets attenuated at the base, roundish, obtuse.” Willd. Very similar to the preceding, but differs in the particulars mentioned in the specific character, and in having leaves three times as large, the leaflets being a foot long. A native of the coast of Coromandel.

Dr. Roxburgh has described these two species in the third volume of the Asiatic Researches, p. 469, 8vo. The frist is the Maduga of the Gentoos. The juice above-mentioned hardens into a ruby-coloured brittle astringent gum, soon losing its beautiful colour when exposed to the air; entirely soluble in water, and also in a great measure in spirits. Infusions of the flowers dye cotton cloth, previously impregnated with a solution of alum, or alum and tartar, of a molot beautiful bright yellow. The second species is the Tida maduga of the Gentoos. This also yields a red gum from its bark, and its flowers afford the same beautiful yellow dye and pigment.

BUTEO, in Ornithology, the species of Falco we call the common buzzard in this country. It has the cere and legs yellow; the body brown, and the belly pale, with brown spots. This is rather larger than a kite in the body; its length about 20 inches.

BUTEONIS, in Zoology, a species of Echinorhyn- chus, of a very clear white colour, with the velu s of the tail bluish and lentiform. Goeze. Length of this kind two inches and a quarter. Infests the intestines of the buzzard.

Butenonis, a species of Ascaris, that infects the intestines of the buzzard, Falco buteo, but of which no particular description has been hitherto given. Goeze, Gen. el. &c.

Buteonis, is also a species of Cucullanus, found in the intestines of the same bird, of which we have no description.
BUTIOTUM, Butrinto, in Ancient Geography, a
village town of Epirus, mentioned by Virgil, Strabo, and
Pliny, who represent it as a Roman colony. It was
placed on a river, called Xanthus, in Thessalia, over against
Corfu, as Butrinto is at present opposite to Corfu. Cæsar
gives it this position; and Virgil says that Æneas landed
there, and was allowed to find a Trojan who reigned here,
and who was Hicetas the son of Priam. This king liber-}
ately supplied the wants of Æneas, and gave him useful
advice with respect to his navigation.

BUTIOTUS, a river of Italy, in the country of the
Pompei. Clauser.

BUTIUS, a town of Africa in Libya Interior, and
near the source of the river Bagrada. Toqiny.

BUTYLIUS. See T. in Antiquity, a sacrifice of the
greatest kind: such were the hecatoems. See Sacrifice
and Hecatombs.

The Greeks frequently prefixed the particle ἐν, ὑπό, to
words, to denote things of extraordinary magnitude, as
alluding to the bigness of oxen.

BUTI, in Geography, a town of Italy, in the duchy of
Tuscany, seated on the Arno; 20 miles N.N.E. of Leghorn.
The mountains of Pisa form near this place a deep narrow
hollow, called the valley of Buti, bounded by the sides of
the mountains, which are covered with pine, cedrus, and
olive trees. In the bottom is a smooth ground, cut by an
impetuous torrent; and in the lowest part of it is situated
the land of Buti, in two divisions, the higher, called the
"castle," and the lower, the "town." It is continually
exposed to a cold, moist air, except during some days in
summer; it is often covered with a thick cloud, and subject
to sudden changes of weather, particularly to heavy rains;
owing to its being below the high mountains of Pisa, and
to the lake of Bicentia, which feeds.

BUTIGA, is an inflammation of the whole face, otherwise
called guta rojacea.

BUTIS, in Ancient Geography and Mythology. See
Butus.

BUTLASS, in Geography. See PuDAR.

BUTLER, or Bottle, an officer whose chief charge is
over the cellars and liquors. See Arch-Butler.

Butlers, buticularis, among the Normans, denoted wine-
tellers, appointed to examine liquors, and fees that they were
right and legal.

Butler of France, buticarius Francia, was one of the
great officers of the household of the ancient kings of
that country, who signed all the royal patents, or at least
was present at the dispatch of them. His seat was among
the princes, and he even disputed the precedence of the con-
stable of France. He had a right of prefalting at the
chamber of accounts; and in the registers of that office of the
year 1357, mention is made that John de Bourbon, grand
butler of France, was admitted there as first president.
But the title has been since abolished, and, in lieu thereof,
a new office of grand chevalier, or cup bearer, was erected.

Butler, James, duke of Ormond, in Biography, an
accomplished English courtier and eminent statesman, in
the 17th century, was the son of Thomas Butler esq. a branch
of the Ormond family, and by his mother, the granddau-
†on of Sir John Poynitz, and born at Newcastle-house in Clerken-
well, London, in 1610. Upon the decease of Thomas, earl
of Ormond, his grandfather, Sir Walter Butler of Kilkea,
affirmed the title, and his father was called by courtesy
viceroy of Thurlus. After the death of his father, who was
drowned on his passage from Ireland to England, in 1619,
and who left a widow and 7 children in embarrassed circum-
stances, this title devolved upon him. In 1620, he was sent
over to England by his mother, and placed under the tuition
of a parish schoolmaster at Finchley, near Barnet; but by
the intercession of King James, who claimed the wardship
of the young lord, he was removed to Lambeth, and his
education was committed to the superintendence of arch-
bishop Abbot. In this situation he is said to have enjoyed
little advantage with regard to general instruction; but he
acquired those principles of the Protestant religion to which
he maintained a steady attachment in the progress of his life.
Upon the death of King James, he was taken home by his
grandfather, the earl of Ormond, and no further care seems
to have been taken with regard to his education. At the
age of 18, he attended the duke of Buckingham at Port-
mouth, and after the assassination of this favourite by Felton,
he returned to London; and marrying his cousin, the lady
Elizabeth Preston, in 1639, he brought to an amicable ter-
mination the disputes that had long disturbed the harmony
and injured the interests of both families. In the following
year he removed to Ireland, and purchased a troop of horse.
In 1632 his grandfather died, so that he succeeded to the
title and estates of the earldom of Ormond; and in 1633,
when lord Wentworth, afterwards earl of Strafford, became
governor of Ireland, he was distinguished by the peculiar
attention of this eminent statesman; who, on occasion of
their first interview, said, "that if his skill in phyllogny
om did not fail him, that young noblemen would make
the greatest man of his family." The connection thus
formed between the lord-deputy and the young earl, sub-
sidized, with little interruption, during the whole of Strafford's
administration. At the age of 24 he was sworn of the privy
council, and on occasion of the troubles which broke out in
Scotland, he was appointed to the command of the army
levied in Ireland, under the lord lieutenant. To the inter-
est of lord Strafford he uniformly adhered; and this unfortu-
nate nobleman testified the sense he entertained of the importance
of his services, by requesting that the king would confer his
blue garter upon his friend the earl of Ormond; which,
however, he declined accepting during this reign. Upon
the commencement of the great rebellion in Ireland in 1641,
the earl of Ormond was appointed lieutenant-general and
commander in chief of the army, which consisted at that
time of no more than 3000 men. Without this considerable
force, and a few additional troops which he was able to raise,
he refit the progres of the rebels, and in 1642 demolished
them from the Naas near Dublin, raised the blockade of
Drogheda, and routed them at Kilrath. His exertions,
however, were impeded by the jealousies of the lords justices,
and afterwards of the earl of Lecicet, the lord lieutenant;
but the king, with a view of counteracting this opposition,
gave him an independent commission under the great seal,
and, as a further mark of favour, created him marquis of
Ormond. In 1643 he obtained a considerable victory with
very inferior forces over the rebels under the command of
the Irish general Preston, but for want of suitable encourage-
ment, he was under a necessity of concluding a cessation of host-
tilities, for which measure he was much blamed in England;
though he availed himself of it by sending over troops to the
assistance of the king, who was then at war with the parlia-
ment. His majesty, in recompense of his fidelity, and the
service rendered to the royal cause, created him lord-lieute-
nant of Ireland, in the room of the earl of Lecicet; and he
entered upon his government in the beginning of the year 1644.
In the exercise of this office, he had to contend with many
difficulties, occasioned by the rebellious spirit of the old Irish,
and the machinations of the English parliament. Having
maintained an unsuccessful struggle for three years, he was
at length, viz. in 1647, obliged to sign a treaty with the
parliament's
parliament's commissioners, and to come over to England, where he waited on the king at Hampton-court, and obtained his majesty's full approbation of all his proceedings. His circumstances, however, were embarrassed and perilling, so that he thought it most prudent to provide for his own safety by embarking for France.

During his short residence in this country, he corresponded with the Irish for the purpose of inducing them to engage in the royal cause; and having engaged lord Inchiquin to receive him in Munster, he landed at Cork, after escaping the imminent danger of shipwreck, in 1748. On his arrival, he adopted measures which seemed to revive the hopes of the king's friends. These hopes were further encouraged by the alharrounce excited throughout the country on occasion of the king's death; and in consequence of this favourable impression on the public mind, the lord lieutenant caufed Charles II. to be immediately proclaimed. But Owen O'Neill, intimated to the Pope's nuncio, and supported by the old Irish, raised obstacles in his way, on which he determined to over come by the bold enterprise of attacking the city of Dublin, then held for the Parliament by governor Jones. This entreprise, however, failed, with very considerable losses on the part of the Marquis; and soon after Cromwell arrived in Ireland, and having formed Drogheda, surrendered it to military execution, thus striking terror into the Irish, fo that they became dissatisfied with the lord-lieutenant, and insurfed on his leaving the kingdom. At the close of the year 1652, he embarked for France, and there joined the exiled family. In order to retrieve his own affairs, the marchioness went over to Ireland, and having in some measure succeeded in exempting her own estate from forfeiture, she remained in the country, and never saw her husband till after the restoration. In the mean while the Marquis was employed in various commisfions in behalf of the king; and he rendered essential service to his cause by refusing the duke of Gloucester out of the hands of the queen-mother, and preventing her severe treatment from inducing him to embrace the Catholic religion. He was also instrumental in detaching the Irish catholic regiments from the service of France, one of which he was appointed to command, and in obtaining the surrender of the town of St. Colman, near Brussels, to the Spaniards. In a secret embassy to England for the purpose of investigating the state of the royal party, he cleared several hazards of discovery from the spies of Cromwell; and at length, when Charles II. was restored to the throne of his ancestors, the Marquis accompanied him, and was liberally recompenced for his faithful attachment and active services. Besides the restoration and augmentation of his large estates in the county of Tipperary, he was raised to the dignity of duke of Ormond, and he officiated as lord high-lieutenant of England at the king's coronation. After his appointment to the lord-lieutenancy, in 1662, he made several efforts, attended with considerable success, for reducing the country to a state of tranquillity, and he promoted various improvements, particularly with respect to the growth of flax and manufacture of linen, which very much conduced to its subsequent prosperity. His attachment to Earl Clarendon, however, involved him in the odium which pursued that great man; and though his conduct, after rigorous scrutiny, furnished no matter of just censure, he was nevertheless deprived of his government by the machinations of the duke of Buckingham, in 1699; but in the same year, he was elected to the office of chancellor of the University of Oxford. In 1679, a desperate design was formed against him by colonel Blood, whom he had imprisoned in Ireland on account of his having engaged in a plot for the surprisal of Dublin castle. Blood, being at this time in London, determined to seize his person, in his return from an entertainment given in the city to the prince of Orange; and in the prosecution of his purpose, his accomplices dragged the duke out of his coach and placed him behind one of them who was on horseback, in order to convey him to Tyburn, and execute him on the public gallows; or, as others say, to take him out of the kingdom, and compel him to sign certain papers relating to a forfeited estate of Blood. The duke by his struggles threw both the man and himself from the horse, and by feasible alibis he was released from the custody of these affasins. This daring act of violence excited the king's resentment; but Blood, for certain reasons, having been taken into favour, his Majesty required the duke to forgive the insult. To which message he replied, "that if the king could forgive Blood for attempting to heal his crown, he might easily forgive him for an attempt on his life; and that he would obey his Majesty's pleasure without inquiring into his reasons." For seven years the duke of Ormond, who was equally adverse to papists and fanatics, and who puffed a spirit which would not stoop to the cabals formed by triflers and perfons delirious of honour, was neither in favour with the court nor employed by it; but at length, in 1677, he was surprized by a message announcing the king's intention to visit him. The object of this visit was to dissolve his Majesty's resolution of appointing him to the lord-lieutenancy of Ireland; and this resolution had been adopted by the influence of the duke of York, who had reason to imagine that the "cabin," or court-party, proposed to introduce the duke of Monmouth into this high station in the room of the earl of Effex, who had been removed. In order to counteract this plan, the duke of York recommended his grace of Ormond to the king, as the most likely person to engage general confidence, and to unite discordant parties in both countries. The king per fided in his resolution, and the duke of Ormond took possession of the government. Upon his arrival, he adopted vigorous measures for diminishing the papists and maintaining public tranquillity; and though he did not escape calamity, the king determined to support him against all attempts for removing him, and declared with an oath, "that while the duke of Ormond lived, he should never be put out of that government." He was devious, indeed, of calling a parliament in Ireland for settling affairs, but to this measure the king would not give his consent. In 1682, when he came over to England to attend the king with the state of his government, he was advanced to the dignity of a English dukedom; but notwithstanding this mark of royal favour, he had given such offence by his impor tunity with respect to an Irish parliament, that immediately on his return he was apprised of an intention to remove him. Upon the accession of James, the duke caused him to be proclaimed, and soon after resigned his office and came over to England. Although the duke's principles did not suit the projects of the new reign, he was trea ted with respect by the king, and received from him the honour of a visit whilst he was confined to his chamber with the gout. He died at Kingston-hall, in Devonshire, July 21st, 1688, in the 75th year of his age, and was buried in Westminster-abbey. "The character of the duke of Ormond was that of a high-spirited and liberal nobleman, upright in his intentions and steady to his political principles, which were those of monarchy with large prerogatives, but not beyond the law. He was a steady friend to the church of England, and had in his family several men of learning who attained to eminence, among whom were Dr. Hough, the excellent
excellent bishop of Worcester, and the very ingenious Dr. Burnet of the Charter house. From a low though honourable beginning, he arrived at great rank and prosperity, and left a numerous progeny, of which he lived to see the third generation. He was active and well versed in business; and his talents, though not of the first class, enabled him to appear with reputation in several difficult conjunctures." Biog. Brit. Gen. Biog.

Butler, Joseph, an eminent prelate of the English church, was born at Wantage in Berkshire, in 1692, and was intended by his father for the ministry among protestant dissenters of the presbyterian denomination. With this view, after having finished his grammatical education at his native place, he was sent to a dissenting academy, kept by Mr. Samuel Jones, first at Gloucester and afterwards at Tewksbury. Of his application and proficiency as a theological student, he exhibited a signal evidence in two letters addressed to Dr. Clarke, and containing a statement of doubts that had occurred to him concerning the conclusiveness of some arguments in the Doctor's "Demonstration of the Being and Attributes of God." The first of these letters, dated Nov. 4, 1713, displayed a sagacity and depth of thought which excited the particular notice of Dr. Clarke. Encouraged by this condescension, Mr. Butler addressed the doctor again upon the same subject; and received an answer. The whole correspondence, which comprised three other letters, was annexed to the celebrated treatise above-mentioned, and retained in all the subsequent editions. The correspondence was secretly conducted by Mr. Secker, the friend and fellow-pupil of Mr. Butler; and procured for him, as soon as he became known, the friendship of Dr. Clarke. Whilst he was engaged in the prosecution of his studies at Tewksbury, he entered into an examination of the principles of nonconformity; and the result of his inquiry was a resolution of conforming to the established church. His father was at first dissatisfied with his purpose, and attempted to divert him from it: but, finding that his son's resolution was fixed, he consented to his removal to Oxford, where he was admitted a commoner of Oriel college in 1714. Here he formed an intimate friendship with Mr. Edward Talbot, second son of bishop Talbot, and to this circumstance he owed all his future preferments in the church. Having taken orders soon after his admission at Oxford, he was recommended, in 1718, by Mr. Talbot and Dr. Clarke to Sir Joseph Jekyll, who appointed him preacher at the Rolls chapel. In this situation he continued till the year 1726, when he published, in one volume octavo, "Fifteen Sermons preached at that Chapel." These sermons established his character as an acute and solid reasoning, and as they are rather deep disquisitions, than popular discourses, adapted solely to a learned and attentive audience, the author thought proper to make an apology for their abstruseness in a preface to a second edition, revised and improved in 1729; in which preface he has also abridged and illustrated the principles laid down in his sermons. The style of these compositions is delusive of that ease and perspicuity, which might justly have been defied, but which Butler was never able fully to attain. His friend Secker is said to have taken pains in rendering more familiar the language both of these discourses and of his other works. By the judicious reader, notwithstanding these defects, they have been always held in high estimation. Under the patronage of Dr. Talbot, then bishop of Durham, to whom Butler was recommended by his son on his death-bed, he was presented, first, viz. in 1722, to the rectory of Houghton near Darlington, and afterward, viz. in 1725, to that of Stanhope in the same diocese. At this latter place, Mr. Butler, having resigned the Rolls chapel in 1726, reigned during seven years, diligently discharging the duties of a good parish priest. The situation, however, was too retired and solitary for a person of his gloomy disposition; and his friend Mr. Secker, who was apprised of this circumstance, was anxious to draw him out of solitude into a more active and conspicuous scene. With this view he took the liberty of mentioning him to queen Caroline; who, apprehending that he was dead, asked archbishop Blackburne, if this was not the fact: to which the archbishop replied, "No, madam, but he is buried." By the recommendation of Mr. Secker, the lord chancellor Talbot nominated him his chaplain; and Mr. Butler accepting the nomination, came up to London by way of Oxford, in 1733, and was created doctor of laws. The chancellor also gave him a prebend in the church of Rochester, and it was stipulated that he should continue to reside half the year at Stanhope. In 1736, he was appointed clerk of the closet to queen Caroline, and in the same year, he published his celebrated work, entitled "The Anatomy of Religion, natural and revealed, to the Constitution and Course of Nature." The first edition of this work, which for depth and originality of thought and reasoning, is one of the most masterly performances that ever appeared in the world, was published in 1736 in 4to; the subsequent editions have been in 8vo, and the last by Dr. Halifax, bishop of Glouceter, was published in 1758. The foundation of the mode of reasoning pursued in this treatise had been laid by the author in his sermons, and particularly in the last of them "On the Ignorance of Man." For a general account of it, see the article ANALOGY. To the "Analogy" are annexed two Diversions; one on Personal Identity, and another on the Nature of Virtue.

Whilst queen Caroline lived, Dr. Butler attended her for two hours every evening; and by her urgent recommendation to the king, he was raised in the year following that of her death, viz. in 1738, to the see of Bristol, and in 1740, to the deanery of St. Paul's in London, upon which he resigned his rich living of Stanhope. Besides attention to the various duties of his diocese and deanery, bishop Butler preached several sermons in the metropolis on particular occasions, which were printed, and which have since been annexed to the later editions of the sermons at the Rolls chapel. In 1746, he succeeded Dr. Egerton, bishop of Hereford, as clerk of the closet to the king; and in 1750, he was translated to the see of Durham. At his primary visitation in 1751, he delivered a charge to his clergy of which the principal subject was "External Religion." In recommending on this occasion the utility of outward forms and institutions, towards fixing and preserving in the minds of men a sense of devotion and duty, he was thought by several prelates to have spoken too favourably of pagan and popish ceremonies, and to have countenanced, in a certain degree, the cause of superstition. He had also put up a plain marble cross in his chapel at Bristol. The charge was animadverted upon by an able and spirited writer in 1752, in a pamphlet entitled, "A Serious Enquiry into the Use and Importance of external Religion, &c." The circunstances of the cross at his chapel, and the offence taken by some persons at this charge, might possibly have given rise to the calumny which was advanced, almost 15 years after his death, in an obscene and anonymous pamphlet, entitled "The Root of Protestant Errors examined;" and which charged him with having died in the communion of the church of Rome. The charge is absurd and groundless, and hardly deserves refutation. It is sufficiently exposed in bishop
bishop Portus’s life of archbishop Seeker; and the character of the worthy prelate has been more amply vindicated by Dr. Halifax, then bishop of Gloucester, in a preface to the second edition of his charge, printed in 1786, containing an account of the character and writings of the author. Soon after his removal to his new bishopric, the health of bishop Butler began visibly to decline; and having made ineffectual trial of the waters at Bristol, he removed to Bath, where he died on the 18th of June, 1752. His remains were interred in the cathedral at Bristol, where a monument, with an inscription, is erected to his memory. For bishop Butler’s intellectual character, it will be sufficient to refer to his invaluable writings. Of his piety we may observe, that it was sincere and fervent, but perhaps inclining too much to the gloomy and ascetic extreme. His benevolence was ardent and diffusive. During his residence on the see of Bristol he expended in the repairs and improvement of the episcopal palace the sum of £2000, which exceeded the whole amount of his receipts from that see. His benefactions were numerous and liberal. He maintained the hospitality and dignity of his diocese with spirit, setting apart three days in the week for the entertainment of the principal gentry of the county, and condescending to invite the poorest of his clergy to his table, and to visit them in their parishes. At his death it is said that he had ordered all his MSS. to be burned, without unfolding the covers of any of them. Biog. Brit. Halifax’s Preface.

Butler, Samuel, a celebrated poet of the 17th century, was born at Strensham, in Worcestershire, as some say, in 1660, and according to others, in 1612. Having laid the foundation of grammar-learning in the free-school at Worcester, he was sent to Cambridge, where he resided, without being matriculated in that University, for 6 or 7 years. Upon his return to his native county, he lived as clerk with an eminent justice of the peace, in whose early and reputable service he had leisure for applying to his favourite studies, history and poetry, and also for amusing himself with music and painting. Under the patronage of Elizabeth, countess of Kent, he had access to a valuable library, and the opportunity of frequent intercourse with the great Mr. Selden, who employed him in writing foreign letters, and translating for him. He also lived for some time with sir Samuel Laker, a gentleman of an eminent family in Bedfordshire, and a famous commander under Oliver Cromwell. About this time he wrote his celebrated burlesque poem, entitled "Hudibras," under which character, as it is generally supposed, he intended to ridicule sir Samuel. After the restoration, Butler was made secretary to Richard earl of Carlbery, lord president of Wales, and by him appointed steward of Ludlow castle, when the court was revived there; about which time he married Mrs. Herbert, a lady of good family and some fortune. The first part of his "Hudibras" was printed in 1665; and it was introduced to the notice of the court by the "Mecenas" of that age, the earl of Dorset; and yet, though it was highly extolled by the prevailing party, both in church and state, and much admired, as well as frequently cited, by the king, the author received no other recompence besides praise and barren promises, and was suffered to pass his days in an obscure and neglected condition. The only boon which was conferred upon him by the king (and even this grant is disputed) was a donation, exempt from office fees, of 300l., which he honourably devoted to the discharge of his debts; but the professions of regard and service made to him by lord chancellor Clarendon, and by the duke of Buckingham, were futile and inefficient. Respected for his integrity and beloved for his social qualities by his few intimate friends, he died in 1680, and was buried in the church-yard of St. Paul’s, Covent-garden, at the expense of his friend Mr. Longueville of the Temple; and, in 1721, a monument was erected to his memory among the poets in Westminster abbey, by alderman Barber, the printer. The inscription figures the common opinion of his poverty by the following words: "Ne cui vivo deceret ferc omnia deflectit etiam mortuo tumulus?" i.e. left he who, when living, wanted almost every thing, should, when dead, want also a tomb.

A monument has since been erected, by private subscription, in the portico of the church, near which he was buried, bearing the poet’s bust, taken from that in Westminster abbey; and on a stone beneath the monument are inscribed the following lines, contributed by Mr. O’Byran:

"A few plain men, to pomp and pride unknown,
O'er a poor hard have raised this humble stone,
Whole wants alone his genius could surmount;
Victim of zeal! the matchless Hudibras!
What! tho’ fair freedom suffered in his page!
Reader! forgive the author—for the age—
How few, alas! disdain to cringe and cang,
When 'tis the mode to play the fycophant!
But oh! let all he taught from Butler’s fate,
Who hope to make their fortune by the great,
That wit and pride are always dangerous things,
And little faith is due to courts and kings."

His poem, entitled "Hudibras" is one of the most original works, with regard both to its style and matter, that was ever written. It is of the burlesque kind, being usually styled a "mock-heroic," or "mock-epic," and much resembles Homer’s "Margites," which, according to Aristo- tole, bore the name relation to comedy, that the Iliad and Odyssey do to tragedy. The hint of it was suggested by the inimitable Don Quixote; and it was intended as a general satire on those times of anarchy and confusion, during which the poet lived, and its leading aim was to expose by ridicule the religious and political principles of the Puritans, as they appeared after the civil war which overthrew church and state in the reign of Charles I. Of this poem there are three parts, which were printed separately; but the story was left unfinished. The diction and verification are often grossly familiar and negligent, though, upon the whole, they add to the humorous effect; and it is justly remarked by Dr. Johnston, in opposition to the judgment of Mr. Dryden, that "the heroic style and measure would not have been better adapted to the author’s purpose. The frequent double rhymes, introduced by the author, although they are often very imperfect, seem to give a kind of comic tone to the whole, and to improve the wit by combining the most incongruous ideas. Butler, besides the talent which he professed of interesting and amusing the reader by odd and whimsical notions and associations, was well acquainted with human life.

To this purpose Dr. Johnston (Lives of the Poets) observes, that "he had watched with great diligence the operations of human nature, and traced the effects of opinion, humour, interell, and passion. From such remarks proceeded that great number of sententious maxims which have passed into conversation, and are added as proverbial axioms to the general flock of practical knowledge." Of the numerous editions of this poem, the most valuable is that of Dr. Zachary Grey, published in 1744, with copious annotations, and a preface in 2 volumes, 8vo. The singular popularity of this poem produced several unsuccessful imitations of it, and some vain attempts to translate parts of it into Latin. But it is not easy, or perhaps possible, to transfer the humorous turn of the phrase, for which this performance is distinguished, into any foreign language. The undertaking, however dif-
ficult, was attempted in a French translation of Hudibras, in 3 vols. 12mo, with notes, by — Townley, junior, etc., of Townley in Lancashire. A collection of pieces, under the title of "The Poetical Works of Mr. Samuel Butler," was published after his death, in 3 vols. 12mo; but most of these are falsely attributed to him, and none of them are of much value. However, in 1759, there appeared a more respectable publication, entitled "Genuine Remains in Prose and Verse of Mr. Butler, from the original MSS. formerly in the possession of W. Lang-stevie, esq."

Butler, William, was born at a town in Derbyshire, in the year 1726. After the usual school education, he went to Edinburgh, and in 1741 took the degree of Doctor in Medicine, and published for his inaugural thesis, "Dissertatio Medica et Chirurgica de Arteriotoria," 8vo. He then returned to Derby, where he practised medicine for about ten years, when he came and settled in London. In 1773, he published a treatise on the kink-cough, the name he gives to the tuffic convulativa, or whooping-cough. In the care he relied principally on the efficacy of the extraictum cicuta, which he considered as a specific in the complaint. Two years after, he gave an account of the puerperal fever, as it appeared in Derbyshire and some of the adjacent counties, 8vo; and in 1794, a treatise on the disease commonly called angina pectoris. This disease was first described by Dr. Heberden. His account of it is published in the second volume of "Medical Transactions," by the Royal College of Physicians. Dr. Butler had no doubt of its being a goofy affection, and calls it the diaphragmatic gout, and thinks it generally curable. In the fit he gives opium with aromatics. For the cure he recommends pills with aloe and loap, to keep the body soluble. These with temperance, he says, will usually succeed in putting an end to the complaint. While he was at Edinburgh, where he appears to have resided about seven years, he published "A Method of Cure for the Stone, chiefly by Injections," 12mo, 1754; and "Dissertatio de Frigore quatenus Morborum Causa," 8vo, 1757. He died at his house in Lower Grosvenor-street, March 21st, 1805. European Mag.
by a charter of Edward I., called "Charta Mercatoria," (31 Edw. I. c. 1 & 2. 27 Edw. III. c. 26) was exchanged into a duty of 3s. for every ton imported by merchant-fraingers, and called butlers. Because it was paid to the king's butler. See Custom.

**BUTMENTS, in Architecture, those supporters or props, on or against which the feet of arches rest.**

Butments of arches are the same with buttresses. They answer to what the Romans call sublices; the French, culées and butées.

The word comes from the French buter, to abut or terminate on any thing; or rather from buter, to prop.

The name butments is also given to little places taken out of the yard, or the ground plot of a house, for buttresses, sculleries, &c.

**Butments, or Butments of a bridge, denote the two masons at the end of a bridge, whereby the two extreme arches are fulfilled and joined with the shore on either side. The butments of bridges next the banks should be built more firm and solid, as serving to fulfill the whole series of arches, and hinder them from spreading. See Bridge.**

**BUTNERIA, in Botany.** See Calycanthus floridus.

**BUTOA,** in Ancient Geography, an island placed by Pliny among those of Crete, between Ophiussa and Arados.

**BUTOUS,** in Botany, (byopous), from βούτος ox, and τίχων to cut; a name given by Theophrastus to an aquatic plant, on account of its being greedily cropped by oxen, or as others think, with less probability, because the sharp edges of its stem wound their tongues and lips. Hefychius defines it, φυτόν βοτον δεδομένον τού ὄχων χρήσει, a plant given to oxen for food like grasses: and Suidas, φυτήρος περιπατοῦς κάλαμον από ὄποιοι, a plant allied to the reed eaten by oxen. Bauline supposes it to be his juncus floridus, the plant before us, to which Linnaeus has since given the ancient name; others, the ipparagium ramoium of Linnaeus; and others, a species of iris.) Linn. gen. 507. Schreber. 693. Wild. 804. Diet. 46. Vent. vol. 2. 158. Clasts and order, camaedia hesperygia. Nat. ord. tripetalaeides, Linn. Junc. 46. Alstromed. Vent.


**BUTONES,** in Ancient Geography, a people placed by Strabo in Germany, and said to be subdued by Maroboduus.

**BUTORICA,** in Botany, Rumph. La Mareck, and Boele. See Bactriae speciosa.

**BUTORICA,** Rumph. See Eugenia acutangula, and racemosa.

**BUTORUS,** in Ornithology, a name by which some have called the common bittern, Ardea Stellatiss.

**BUTOW,** in Geography, a town of Germany, in the circle of Upper Saxony, and farther Pomerania, 39 miles N. E. of New Stettin.

**BUTRINTO,** in Ancient Geography, a sea port town of Albania, in a gulf to which it gives name, in the canal of Corfu, the fee of a Greek bishop, suffragan of Janina. It belongs to the Venetians; 56 miles W. S. W. of Delfino. N. lat. 39° 46'. E. long. 23° 40'.

**BUTRIUM,** or BUTRIO, in Ancient Geography, a town of Italy, in the country of the Cenomani, according to Ptolemy, and placed by M. d'Anville north of Ravenna.

**BUTSKOPF,** (Marten) in Zoology, synonymous with buts-kopper.

**BUTS-KOPPER,** (Egede). See Delphinus orca. BUTT, in Agriculture, a provincial term applied to such ridges or portions of arable land as run out short at the sides or other parts of fields.

**Butt,** in our Ancient Customs, denotes a place erected for archers to shoot at, and in which a mark or white was fixed.

**Butt,** in Commerce, is used for a vessel, or measure of wine, containing two hogsheads, or 126 gallons.—Other-wise called pipe.

A butt of currants is from fifteen to twenty-two hundred weight.

**Butt,** in Ship-building, the end of a plank, or strictly speaking, that end of a plank which was nearest the root of the tree. Each end of a plank is securely bolted to a frame or timber, to prevent its rising from the bottom or side of the ship, which, in that case, would be said to have sprung or started a butt. At sea this is very dangerous, and difficult to get secured if the plank is under water. But also signifies the ground or largest end of all timbers.

**Butts,** or Backs, a denomination given to that part of tanned leather, which is prepared from the rawhide and heavy ox hides, and chiefly used for the soles of shoes. For the process of preparing it, see TANNING.

**BUTTA,** in Ancient Geography, a town of Africa, situated between the two Syrtes, N. of Tege. Ptolemy.

**BUTTELSTETT,** in Geography, a town of Germany, in the circle of Upper Saxony, and principality of Weimar; five miles N. of Weimar.

**BUTTEN,** a town of Arabia, 28 miles E. of Chahir.

**BUTTER,** in Rural Economy, a fat unctuous substance prepared from milk by the processes of churning. It is a matter naturally distributed through the whole substance of the milk in very small particles, which are interposed betwixt the cacaous and serous parts, amongst which it is suspended by a flight adhesion, but without being dissoluted. It is in the same state in which oil is, in emulsions; hence the whites of both; and hence, by heat, the oily parts separate from both those liquors to the surface, and form a cream. When butter is in the state of cream, its proper oily parts are not yet sufficiently concentrated to form an homogeneous mass. While separated by the intervention of a large quantity of serous particles, the butter cannot be completely formed; but by passing out the heterogeneous parts by means of continued percussion, by the well known...
operation of churning, it then becomes an uniform soft mass.

Melis. Parmentier and Deycuex, in a memoir on milk, (Mem. qui a remporté le premier prix, &c. Paris, 1791), instituted several experiments to ascertain whether butter really exists in the cream, and is merely separated by agitation, or by the act of churning, or whether this process effectuates a chemical change. They incline to the latter opinion; because they found that the separation of the particles of butter could not be produced in any other manner; cream left in the milk yields fat chees, but not butter. The oily parts do not rise into butter by exposure of cream to heat, nor by boiling it. The application of acids by separating the cheesy matter blended with the cream, instead of facilitating, retards the fermentation of butter. Half an ounce of oil was mixed with four ounces of cream; this was gently agitated and exposed to moderate heat; part of the oil swam on the surface, without uniting with the buttery particles in the cream; the other part rendered the fermentation of butter more difficult, and its confinement longer. Thus, whether solvents were applied to attach the buttery or cheesy particles of the cream, agitation was still necessary, and the change into butter was rendered more difficult.

Different methods are employed in obtaining and preparing this substance from milk as well as in managing and preserving it for use. See Dairying.

Butter, Whey, an inferior sort of butter made from whey in extensive cheese dairies. It is prepared in different methods in different dairy-disticts. See Dairying.

Butter, History of. The word butter is formed from βοτρέ-γος; a compound of βόσκω, cow, and νους, chafe; q. d. cow's chafe. Some authors, from a regard to this etymology, affect to write the word butyr and butyr. This is the etymology adopted by the Grecian and Roman authors. Chafe was known to them at a much earlier period than butter; and it is therefore possible, that, at first, they might have considered the latter as a kind of chafe, inasmuch that it appears that νους once signified any kind of coagulated substance. But to the first syllable of the word, it has been objected, that the Greeks used the milk of sheep and goats much earlier than cow's milk; and, for this reason, some have conjectured, that this first syllable was added, agreeably to the custom of the Greeks, in order to magnify the object, or to express a superior kind of chafe. Varro, de Re Rustica, II. 5. p. 274. Vigerus, de praecipuis Graeciae Dictionis Idiotismis, Lugd. Bot. 1684. p. 40. Others have supposed, that the name βοτρέγος is not originally Greek, but that it might have been introduced into Greece from some foreign country, together with the theory which it expresses. Accordingly, the term has been thought to be of Scythian extraction.

Butter, though commonly used at present in most parts of Europe, was not known, or very imperfectly known to the ancients. The ancient translators of the Hebrew writers, however, seem to have thought, that they found it mentioned in scripture, (Bochart Hierozoicon, II. 45. p. 475.) Accordingly, they have referred to the following passages: Gen. xxvii. 8. Deuterom. xxxiii. 14. Judges v. 25. 2 Sam. xix. 29. Job xx. 17. xxix. 6. Prov. xxx. 33. Isaiah vii. 15. 22. But biblical critics agree, that the word מָשָׁנָה, ebanah, signifies milk or cream, or four thick milk; and some of them who doubt or deny the early use of butter among the Eastern nations, will not allow that it denotes butter. See Michaelis Suppl. ad Lexic. Heb. pars. 1. p. 567. The word, it is said, plainly alludes to something that is liquid; and it appears, that ebanah was used for washing the feet, that it was drunk, and that it had the power of producing intoxication; and it is known, that mare's milk, when sour, will produce the like effect. It is further said, that we may conceive of streams of milk, but not streams of butter. The error has been ascribed to the LXX interpreters who have translated the Hebrew term by the word βότρέγος, butyrion. These translators who lived 200 years after Hippocrates, and who resided in Egypt, might, as Michaelis supposed, have been acquainted with butter, or have heard of it; but it is highly probable, that they meant cream, and not our usual butter. According to the common translation, indeed, it may be concluded, that the passage in Proverbs, ch. xxx, denotes the preparation of butter by shaking or beating; but the original words בְּנָוִים, ebanah metz, signify squeezing or pressing, frictio mulgentis, educt lac; so that milking and not making is supposed to be alluded to in this passage. It was late before the Greeks appear to have had any notion of butter. Homer, Theocritus, Euripides, and the other poets, make no mention of it; and yet they frequently speak of milk and cheese; nor does Aristotle, who has collected several curious particulars relating to the other two, say anything of butter. At first, indeed, he gives milk only two component parts, the watery and the caesous; and he remarks afterwards, for the first time, and in a place where it would be little expected, (Hist. Anim. III. 20. p. 388.) that in milk there is also a fat substance, which, under certain circumstanees, is like oil. Herodotus is the most ancient writer, who, in his account of the Scythians, (I. iv. 2.) particularly describes the process used among them for making butter; and this circumstance affords a preassumption, that butter was not then in use among the Greeks, and that they must have acquired it from the Scythians. The word βοτρέγος first occurs in Hippiocrites, (De Morbis, I. iv. ed. 1755. fol. 5. p.) where it is applied to milk, as both of them flourished in the 5th century before Christ. "The Scythians," says Hippiocrates, "pour the milk of their mares into wooden vessels, and shake it violently; this causeth it to foam, and the fat part, which is white, rising to the surface, becomes what is called butter, (ε βοτρέγος καθαρι.)" The heavy and thick part, which is below, being kneaded and perfectly prepared, is, after it has been dried, known by the name of hippieace. The whey or form remains in the middle.

In this passage the author speaks very distinctly of butter, cheese, and whey. Butter is often mentioned by Hippocrates, and he prefers it externally as a medicine under the appellation τιμνογεν, pikierion, which seems to have been in earlier use among the Greeks than the term βοτρέγος, or butter. In the time of Galen this term pikierion, which the Greeks seem to have borrowed from the Phrygians, had ceased to be in use; and it is not to be found in Hesychius, Suidas, or Polycin. The poet Anaxandrides, who lived soon after Hippocrates, (see Fab. Bib. Graec. i. 666. 742.) describing the wedding of Iphicrates, who married the daughter of Cotys, king of Thrace, and the Thracian entertainment given on that occasion, says, that the Thracians ate butter, which the Greeks at that time confided as a wonderful kind of food. Athenaei, Deipn. I. iv. p. 131, and Caestus, Anam. in Athen. I. iv. c. 3. p. 248. Strabo, in three passages (viz. l. 3. vol. i. p. 233. l. xxv. vol. ii. p. 1031, and l. xvi. vol. ii. p. 1176) refers to butter. In the former, he says, that the Lulitanians used butter instead of oil; and in the last he mentions the same circumstance respecting the Ethiopians, who, as Ludolfus informs us, (Hist. Zethop. I. iv. p. 14.) were acquainted with butter; and in the third Strabo relates, that elephants, when wounded, drank this liquid in order to make the darts fall from their bodies. The genuine
nels of this latter passage is doubted, as Aristotle, Pliny, and
\`Elian say that these animals used oil for this purpose. \`Elian, indeed,
(lib. xiii. c. 7.) says, that the Indians anointed the wounds of their elephants with butter. Plutarch, (Adversus Coloten, apud Op. t. ii. p. 1109. ed Xylander.) informs us, that a Spartan lady paid a visit to Beccinice, the wife of De-iotarus, and that the one smeared so much of ointment, and the other of butter, that neither of them could endure the other. Diocorides, about the year 53 B. C. (Mat. Med. ii. 81. p. 107.), says, that good butter was prepared from the fattened milk, such as that of sheep or goats, by shaking it in a vessel till the fat was separated; and he describes the same effects to it, when applied externally, as those produced by our butter at present. Diocorides is the first writer who observes, that fresh butter might be melted and poured over pulse and vegetables instead of oil, and that it might be employed in pastry in lieu of other fat substances. From him also we learn, that a kind of foot was prepared from butter, for external applications, and that it was used in curing inflammation of the eyes and other disorders. For this purpose the butter was put into a lamp, and, when consumed, the lamp was again filled, till the desired quantity of foot was collected in a vessel placed over it. Galen, who distinguishes and approves in a more accurate manner the healing virtues of butter, observes, that cow’s milk produces the fattened butter; that butter made from sheep’s or goats’ milk is less rich; and that the latter milk yields the poorest butter. He expresses his astonishment that Diocorides should say, that butter was made from the milk of sheep and goats; he affirms us, that he had seen it made from cow’s milk, and that he believes it had thence acquired its name. De Simple, Med. Facult. l. x. p. 151. ed Basil ii. p. 143. “Butter,” says he elsewhere (De Aliment. Facult. iii. cap. 15. p. 54. ed Basil. iv. p. 310.) may be very properly employed for ointments; and when leather is befmeared with it, the same purpose is answered as when it is rubbed over with oil. In cold countries, which do not produce oil, butter is used in the baths; and that it is a real fat may be readily perceived by its catching fire when poured over burning coals. From the circumstances above recited we may infer, that butter must have been very little known to, or used by, the Greeks and the Romans in the time of Galen, who wrote at Rome and lived at the end of the second century of the Christian era.

The Roman writers, who give an account of the ancient Germans, relate, that they lived principally on milk. Some say, that they used cheese, whilst others affirm that they were unacquainted with the method of preparing it. Strabo, (lib.iv. vol. i. p. 305.) speaking of the ancient Britons, says, that some of them were so ignorant, that though they had abundance of milk, they did not understand the art of making a cheese; but by his mode of expression he intimates, that they were not all equally unacquainted with this art. Pliny, on the other hand, says, (N. H. lib. xxviii. c. 9. § 35.) that the barbarous nations not only made cheese, but butter, which they used as a most pleasant kind of food, and that it distinguished the rich from the poor; and to them he ascribes the invention of it. By “barbarous nations,” this author most commonly means the Germans and Britons, because they were not thoroughly subjected to the Roman government, nor instructed in the Roman arts. He observes, that butter was commonly made from the cow, the fattest from the sheep, and that it was also made from goats’ milk; that in cold weather the milk was warmed, but that in summer this precaution was not necessary. The vessel employed for making it seems, from his description, to have resembled such as are now used; he says it was covered, and that in the lid there were holes. Whether Tacitus by “lac concertum,” (De Moriibus Germanorum, cap. 23.) which, according to him, was the most common food of the Germans, meant cheese or butter, is not easily determined.

From what has been above said it appears, that butter is not a Grecian, much less a Roman, invention; but that the Greeks were made acquainted with it by the Scythians, the Thracians, and the Phrygians, and the Romans by the people of Germany. It appears also, that when they had learned the art of making it, they employed it only as an ointment in their baths, and particularly in medicine. Columbus, (l. vi. 12. p. 592.) and not Pliny, is, as Vellius thinks, the first Latin writer, who makes use of the word “butter.” Pliny (l. xxviii. c. 19.) recommends it mixed with honey to be rubbed on children’s gums, in order to ease the pain of teething, and also for ulcers in the mouth. The Romans, in general, seem to have used butter for anointing the bodies of their children to render them pliable; and we are told by Sibyllus Apollinaris (carm. 12.) that the ancient Burgundians befmeared with it their hair with it. Clemens Alexandrinus (Peadag. l. ii. p. 107.) informs us, that the ancient Chryrians of Egypt burnt butter in the lamps at their altars instead of oil; and the Abydolians have retained a somewhat similar practice. It is certain, from the above detail, that butter was used neither by the Greeks nor Romans in cookery, or the preparation of food. It is never mentioned by Galen and others, as a food, though they have spoken of it as applicable to other purposes. No notice is taken of it by Apicius; nor is any thing said of it in that respect by the authors who treat on agriculture, though they have given particular information concerning milk, cheese, and oil. Indeed, the ancients had usually accustomed themselves to the use of good oil; and butter in later times has been very little employed in Italy, Spain, Portugal, and the Southern parts of France, where it has been sold in the shops of apothecaries for medicinal purposes. In warm countries it has been found difficult to preserve it for any length of time. In the Roman churches it was so far employed, during Christmas time, as to be used instead of oil, on account of the great consumption of it in other ways. Accordingly, in the cathedral of Rouen, there is a tower called “butter-tower,” tour du beurre, because George d’Amboise, archbishop of Rouen, in 1500, finding the oil fail in his diocese during Lent, permitted the use of butter, on condition that each inhabitant should pay six deniers for the liberty, with whichsum this tower was erected. There are other butter-towers at Notre Dame, Bourges, &c.

From the account of the method of making butter transmitted to us by the ancients, we have reason to suppose, that they were not acquainted with the art of making it so compact and firm as that of modern times; but it seems to have been in an oily, or almost liquid state. Butter is spoken of as somewhat fluid. The moderns cut, knead, and spread butter; but the ancients poured it out like oil; and it is represented by the Greek translators of the Scripture as flowing in streams. On this account the butter of the ancients would not be long kept or easily transported; and the use of it must have been very limited. See Beckmann’s Hist. of Inventions, vol. ii.

In different ages and nations various processes have been used for making butter. In Barbary, the effect of the operation, which we call “churning,” is produced by putting the cream into a goat’s skin turned inside out, which the Arabs suspend in their tents, and then press to and fro in one uniform direction. In this way they quickly occasion

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**BUTTER.**
the necessary separation of the mucilaginous and wheyey parts. Shaw's Travels, p. 168. Dr. Chandler (Travels in Greece, p. 217.) took notice in his way from Athens to Corinth of another mode of churning practised in the Levant; which was that of treading on lumps of cream in order to separate the butter from its more watery part: and this practice, as some have supposed, under light on a pillow of Job (ch. xxix. 6.), that has hitherto been somewhat obscure. Hume's Observations, vol. iv. p. 172.

In Bengal, butter is easily made by the flight turning of a thick in milk; and when they would make butter past for fresh when it is old and rank, they melt it and poor upon it four curdly milk: some hours after which they strain it through a cloth for sale. For an account of other processes, relating to the making, curing, and preserving of butter, see Dairving.

Butter, in Commerce. The trade of butter is very considerable. The butter made in the county of Essex, and well known under the name of Epping butter, is that which is most highly esteemed in London and its vicinity. This appellation, in the more restricted use of it, is applied to that butter which is made from the milk of cows that feed during the summer months in Epping-forest, where the leaves and shrubbery plants contribute to improve its flavour. For the method of making this butter, see Dairving. It is made up for market in long rolls, weighing a pound each; and in the county of Somerset the same kind of butter is diffused in half-pounds for sale, rubbing half round the insides of the dill, so as to make it in the working appear hand-line. In many parts of the kingdom they colour their butter in winter; but by such means they do not enhance its goodness. It rarely happens that the farmers in or near Epping use any colour, and if they do, it is very innocent. They procure from the famed carrots, the juice of which they prefer through a sieve, and mix with the cream when it enters the churn, which makes it appear like May butter: nor do they at any time use much salt, though a little is absolutely necessary. The Cambridgeshire salt butter is held in the highest esteem, and is made nearly after the same method as that of Epping; and, by washing and working the salt from it, the cheesemongers in London often sell it, at a high price, for fresh butter. It is depository, when made, in wooden tubs or firkins, each containing 56 pounds, which are exposed to the air for two or three weeks, and often washed; but the most ready method of salting them is by the use of unslaked lime, or a large quantity of salt and water well boiled, with which they should be rubbed several times, and afterwards thrown into cold water, where they should remain three or four days, till they are wanted. They should then be rubbed as before, and well rinsed with cold water; but before they receive the butter, care must be taken to rub every part of the inside of the firkin with salt. Then, if the butter be properly made and perfectly sweet, it may be gently puffed into the firkin; but it must be well salted when it is made up, and the salt should be equally distributed through the whole mass, and a good handful of it be spread on the top of the firkin; after which the head should be immediately put on. They pursue nearly the same method in Suffolk and in Yorkshire; nor is the butter made in those countries much inferior to that made in Cambridgeshire; indeed, it is often sold in London for Cambridge butter. Uttoxeter in Staffordshire has been long a market famous for good butter, with which the London cheesemongers are supplied. It is bought by the pot, of a long, cylindrical form, weighing 14 pounds. The mountains of Wales, the highlands of Scotland, and the moors, commons, and heaths of England, produce excellent butter, under proper management; and though not equal in quantity, it is far superior in quality to that which is produced from the richest meadows.

Butter, in its natural state, contains a considerable proportion of mucilaginous matter which is more pungent than the pure oily parts. When it is pipped, therefore, to expel the butter to the heat of warm climates, it ought to be freed from that mucilage, before it be covered and packed for keeping. In order to prepare butter for a distant voyage in warm climates, it should be put into a vessel of a proper shape, which should be immersed into another containing water. Let the water be gradually heated, till the butter be thoroughly melted; in that state let it continue for some time, and be allowed to settle; the mucilaginous part will fall entirely to the bottom, and the pure oil will swim at top, perfectly transparent, while hot; but when it cools, it becomes opaque, assumes a colour somewhat paler than the original butter, before it was melted, and a firmer consistency, more nearly resembling that of tallow; and consequently it will better suit the heat of a warm climate than common butter. When this refined butter is become a little stiff, and while it is still somewhat soft, the pure part should be separated from the dregs, then melted, and packed up in the same way with other butter: this will retain the salt butter, and keep much longer sweet, in hot climates, than if it had been cured in its original state. This refined butter may be preserved by adding to it, after it has been purified, a certain proportion of fine honey; mixing them well, so that they may thoroughly incorporate. This mixture has a pleasant taste, and spread on bread, is useful for coughs and colds. It will keep for years, without manifesting the smallest tendency to rancidity; and of course, butter might be thus preserved in long voyages, without spoiling. Dr. Anderson suggests, that one ounce of honey might be sufficient to preserve 16 ounces of butter.

By 36 Geo. III. c. 86. the 13 & 14 C. II. c. 26. and so much of 4 W. c. 7. as discharges persons from the effect of any part of 13 & 14 C. II. for preventing frauds in the sellers of butter, after the factor or buyer hath contracted for the same, are repealed; and new regulations are made respecting the packing, weight, and sale of butter, which are as follows:—every cooper or other person, who shall make any vessel for the packing of butter, shall make the fame of good and well-seasoned timber, light and not leaky, and shall groove in the heads and bottoms thereof: and every such vessel shall be a tub, firkin, or half-firkin, and no other, capable of containing the several quantities of butter herein before mentioned; viz. every tub shall weigh of itself, including the top and bottom, not less than 11 lb. nor more than 1½ lb. avoidpois weight, and neither such top nor bottom shall be more than ⅕ ths of an inch thick in any part thereof, and shall be capable of containing 54 lb. of butter, and not less; every firkin shall weigh of itself, including the top and bottom, not less than 7½ lb. nor more than 11½ lb. and neither the top nor bottom shall be more than ⅔ ths of an inch thick in any part, and shall be capable of containing not less than 56 lb. of butter: and every half-firkin shall weigh of itself, including the top and bottom, not less than 4 lb. nor more than 6 lb., and neither the top nor bottom shall be more than ⅔ ths of an inch thick in any part, and shall be capable of containing not less than 28 lb. of butter, on pain of forfeiting by the cooper or other person making the same, 10s. for every such vessel. The maker shall brand on the outside of the bottom with an iron, his name at full length in permanent and legible letters, together with the exact weight or tare thereof, on the like
like penalty. And by 38 Geo. III. c. 73. every maker
shall mark in like manner his place of abode, or dwelling;
and if his name, on the same penalty. By 36 Geo. III. c. 80;
every dairy-man, or filler of butter, or person keeping butter
at sale, shall pack it in such vessel, properly sealed and
sealed, branding his name after such sealing, on the
bottom within, and on the top without; and also on the
outer side of the top, and on the bonge or body thereof, the true
weight or tare of such empty vessel so sealed, and his name
on the body, across two different places; and he shall dis-
tinctly and at full length, impress his name upon the top
of the butter in such vessel when filled; on pain of forfeiting
5l. for every such offence; the quantities to be packed, shall
be, exclusively of the tare of the vessel, in every tub not less
than 8lb.; firkin 56lb. and half firkin 28lb. of good and
merchantable butter; and no butter which is old or corrupt,
shall be mixed or packed up into any such vessel, with that
which is now churned; nor shall any whey butter be packed
or mixed with that which is made of cream; and no butter
shall be salted with great salt, but with fine small salt, and
not intermixed with more than is needful for its preservation,
and on pain of forfeiting 5l. Any fraud with regard to the
vessel or butter, marks or flaves, &c. shall render the person
concerned in it liable to a forfeiture of 50l. for every such
offence. Fakers buying or selling butter in vessels not
legally marked according to the acts, shall forfeit 20s. for
every such offence; and cheesemakers and other dealers in
butter, having in their possession any vessel containing butter
at sale, not externally marked, shall forfeit 20s. for every
such offence; and they are required to deliver the full quan-
tity, or be liable to an action for recovery of satisfaction with
colls: nor shall they repack butter for sale, on pain of for-
feiting 5l. for every tub, firkin, or half firkin so repacked.
Foreign butter, however, may be repacked in such vessels,
the name of the original seller being erased, and the name of the
person selling being marked with an iron brand, in words at
length, together with the words, "foreign butter," upon
the body of every such vessel: counterfeiting, or forging
marks subjects to a penalty of 50l. All penalties above
5l. are to be recovered in the courts at Welleminster; and
those not exceeding 5l. may be determined by one justice,
and levied by diffire and sale of the offender's goods, for the
use of the informer; or for want of sufficient diffires, the
offender may be committed to the gaol or house of correction,
without bail, for a time not exceeding 3 calendar months,
nor less than 28 days. Every information or prosecution
must be commenced, within four months after the offence
committed.

The statute 4 W. c. 7, regulates the shipping of butter and
cheese for London; the person shipping shall receive
for his pains 2 s. 6 d. for every load; and if he shall make
default, he shall forfeit on conviction before one justice,
for every firkin of butter 10s. and for every weight of cheese 5s.
half to the poor, and half to the informer, to be levied by the
court or by diffires and sale. He shall keep a book of
entry, for receiving and shipping the goods, under the
penalty of 2s. 6d. for every firkin of butter. &c. The
matter of a ship refusing to take in butter or cheese, before
he is full laden, shall forfeit for every firkin of butter 5s.
and for every weight of cheese 2s. 6d. This act does
not extend to any warehouse in Cheshire or Lancashire.
In the act of S Geo. c. 27, there are special directions concerning
the sale of butter in the city of York; and in 17 Geo. II.
c. 8, concerning the name in New Malton.

BUTTER. In its reference to disease and medicine, may be regarded
as resembling its finished qualities, and in con-
sequence of a chemical analysis, the expressed and unctuous
oils of vegetables, and animal fats. Butter, by distilla-
tion in the water bath, gives out a portion of watery fluid,
that either remained interposed between its parts from the
first, or was taken up during the warming which it undergoes
in the process of making. A stronger heat, carefully man-
aged, expels first a strong acid of a pungent smell, which
is followed by a concrete coloured oil, polishing the same
our. Very little coal remains: the acid appears to be of
the nature as that distinguished by the name of the
acid of fat; and it may be also obtained from butter by
means of lime or an alkali. See Fat and Oil. Butter,
like the other mild and fat oils, is liable to a change called
"Rancidity;" and it becomes rancid sooner than most
other fat oils, probably on account of the water, which may
favour the development of its acid. Washing with water, or
ardent spirit, reduces it in some measure to its former
state, by carrying off the disengaged parts of the acid. Butter,
not well freed from the milk, more readily becomes rancid,
than that which is more entirely separated from it; and
butter by being melted, and freed from a deposit which it
makes, on being kept for some time in a mulled state, may
thus be longer preferred from rancidity. By the application
of salt, the rancidity of butter is obviated; and the more
perfect the salt is, the greater is its efficacy, and a less
quantity will suffice; and if at the same time we affil its
antiseptic power, by the addition of a small quantity of nitre,
fugar, and honey, we may then preferve butter very long in a
condition fit to be used as an aliment. The rancidity of but-
ter, according to the experiences of Parmentier and Deyex,
(Memoire qui a remporté le premier prix, &c. 1790.) is
found to proceed entirely from the coagulable, or cheesy
mater which is mixed with it. The quantity of this mix-
ture is inceased by the economical method of warming the
milk, in order to increase the quantity of cream, and by let-
ting the cream remain for too long a time before it is
churned. Thus the cream that rikes without the aid of
warmth, and that is formed into butter, while perfectly fresh,
will yield the most delicate kind, and may be preferred for
the longest time. Whether the oily part of milk is most
fisely employed in the flate of cream, when it is joined with
some portion of the curdous and serum, or when it is
more entirely separated from these in the flate of butter, is a
question that has not been absolutely determined. Dr.
Cullen (Mat. Med. Vol. i. p. 319.) expresses his opinion,
that a quantity of oil in the flate of cream will be more
easily digestsed than an equal quantity of the oily part in the
flate of butter. Some difference, however, in this mattrer
may arise from the difference of flomachs, more or less dis-
pofed to digests oil; and persons have been known, who
could digest cream better than butter. Another difference
may also arise from the flomach being more or less disposed
to acidity; and in the more acceflible flomach, cream may
be more offensive than butter. Butter, as a wholesome al-
iment, should be fresh and free from rancidity, and not fried
or burnt; otherwise it will disorder digestion, and be injuri-
ous. As to its medical effect, butter, as well as the other
olea blandia, or mild oils, is considered as a laxative. To
this purpose Dr. Cullen observes, that a person, being ad-
viced to take as a medicine, every morning, four ounces
of fresh butter, found its constant effect to be that of producing
a flow or two more than usual. By some it has been sup-
posed, that it has a tendency to drop in the capillaries and
glands, and to foul the viesen; whence proceed blotches and
cutaneous diæties.

BUTTER. Clarified, is newly churned butter, without salt,
molten over a clear fire, and having the curly part skimmed
off. Two spoonfuls of the clarified remainder have been re-

BUT

is feems Botany made' but Geography, arf.:; however, worth and bear no Ireland, Buttermere, niftcr-crag, proves but BruU<.ht has river..." a half is perpendicular, and range is who and".s a anger and is that. -- not part initcinc lard. after dairies the noiiri advanta-re n but, " to cold part flatulency is of it acid, longcr'it acid, by very nioft than; would where of is M'>)!< fpcak watm. and ackUhte. Butyruin, fun — the of hardcft their of flax, of mineral of oil. of mineral of water

has been kept from milk, from the meat of milk, from the meat of milk, has been employed in phthisical cafes with greater advantage than ether the entire milk, or the watery parts of it in a more acid state. It is, however, in this last flate, that it is most commonly employed; and it is highly useful in all cafes where the refrigerant powers of milk are required. As the longer it has been kept it seems to have its acidity increased, so it proves more powerfully refrigerant. Some have imagined, that in certain cafes it might be dangerous, but unless when drank in very large quantity, or when the body is very warm, Dr. Cullen says, that he has not perceived its bad effects; and in the last cafe, it is probable that cold water would have been equally injurious. With respect to the acid of butter milk, or other acid flates of the watery part of milk, it is worth observing, that such acid does not increase the accefinity of the fomach, or occasion the flatulency that recent vegetable acids and acetum com- monly do; and therefore it is more safely than these employed by dyplcptic persons. Cullen, Mat. Med. vol. i. p. 353.

BUTTER-lump, or butlin, in Ornithology. See Ardea stellaris.

BUTTER-bur, in Botany. See Tussilago farfetis and hybridu.

BUTTER-cap. See Ranunculus acriu.

BUTTER-jags. See Medicago falcata.

BUTTER-mut, a fruit in New England, whose kernel yields a great quantity of sweet oil.

BUTTER-wort. See Pinguicula.

BUTTER, Butyrum, is also ufed to express several chemical substances—as butter of antimony, of arsenic, of ben, of bismuth, of cacao, of flax, of saturn, of tin, of wax, &c. on account of their form of confluence resembling that of butter.

BUTTER, of flone, a kind of mineral drug found on the highest mountains, and hardest rocks of Siberia, being drawn by the sun's heat, in the way of transudation, from the dry subfolution of the flones themselves, and adhering to the surface thereof like a fort of cals, which having received its full ecction, is scraped off by the inhabitants under the name of kamine majof. The Ruffians afscribe many virtues to it. It is much used for the dyefterry and venereal diseases; but its operation is fo violent, however corrected by other ingredients, that none but the Ruffians dare use it.

BUTTER, vegetable. See Semeaes.

BUTTERANT, in Geography, a village of the county of Cork, in Ireland, remarkable for the ruins of several ecclelitical buildings. It was formerly a corporate town, governed by a mayor and aldermen, but it is now given to decay. The ruins, which are situated on a precipice above the river Owebg, have a very picturesque appearance. The poet Spencer lived in this neighbourhood. Dulance S.W. from Dublin 130½ miles, and 21 miles N. by W. from Cork.

BUTTERFELDE, a town of Germany, in the circle of Upper Saxony, and New Mark of Brandenburg; 5 miles N. of Darwalde.

BUTTERFIELD, a settlement of America, in Cumberland county, and district of Maine, containing 189 inhabitants, and lying about 43 miles N. from Falmouth, on Capeo bay; having Butterfield-flip on the north, and Buck- town on the south.

BUTTERFISH, in Ichthyology, a small species of the Bftius genus, called specifically by naturalists gunnclus, and the spotted blenny; it is distinguished by the name of butterfish by the inhabitants on several of the English coasts. Donov. Brit. Fishes. See Btius gunnellus.

BUTTERFLY, in Entomology. See Papilio.

BUTTERFLY, satyrius, in Botany. See Orchis.

BUTTERFLY fish, in Ichthyology, an English name of the ocellated blenny, Bftius ocellaris, a fish found in the Mediterranean sea; and which is distinguished by having a large black ocellar spot in the anterior part of the dorsal fin, whereas this fish is supposed to bear a fanciful resemblance to the wing of a butterfly.

BUTTERHILL, in Geography, a high round hill of America, on the west bank of Hudson river, at the northern entrance of the High-lands.

BUTTERIS, in Farriery. See Butterres.

BUTTERMERE, in Geography, a village of Cumberland, in England, is seated in a part of the country which has been frequently admired and described by topographers and tourists. The majestic mountains, and transparent lakes of this district, present those wild but delightful features of landscape, which cannot fail to awaken feelings of pleasure and delight. The village has nothing peculiar to excite notice, but the water or lake, which gives name to the place, is particularly beautiful. It occupies an area of about one mile and a half in length, by half a mile in breadth. Its western shore is hemmed in by a range of rugged mountains, rising abruptly from the margin of the water. These assume a dark and heavy aspect, and are known to the shepherds, who are almost the only persons that trace their craggy fleeces, by the names of Hay-cock, High-crag, High-flee, and Red-pike. The eastern shores rise more gently, are partially wooded, and admit of cultivation at a short distance from the lake; the north end is skirted by the verdant vale of Buttermere, and the southern extremity is bounded by Ho- niller-crag, which forms an abrupt termination to a chain of mountains. From this fiece, numerous torrents are continually pouring down their foaming waters into the lake: one of these cataracts falls between four and five hundred yards. The river which furnishes the principal supply of water to the lake, flows through Gatesgirth-dale, which is described by Mr. Gilpin as a most singular and tremendous scene. It winds slowly and solemnly in one large segment; being a narrow concave valley, the sides of which are almost perpendicular, and composed of a broken craggy rock. The river which runs through this valley, is as wild as the valley itself,
itself. It has no banks, but the fragments of rocks, no bed but a channel composed of rock fragments, among which the water forces its course. The middle of the valley is adorned, as these valleys in some parts are, by a craggy hill; on the top of which stands the fragment of a rock, that looks, in Oliff's language, like the flower of power, the rude dignity of defoliation, to which the scene is sacred. Gilpin's Tour to the Lakes, &c.

BUTTERY.—Officers in the king's buttery are a gentleman, yeoman, and three grooms of the buttery. The butter among sty is usually placed near the cellar; being common used for the top of the cellar stairs.

BUTTHERD, in Geography, a town of Germany, in the circle of Franconia, and bishopric of Wurzburg.

BUTTING, in Botany, in Middle Age Writers, is used for tuming of wine, or putting it into butts.

BUTTING-piller. See PILLEN.

BUTTLINGEN, in Geography, a town of Germany, in the circle of Lower Saxony, and duchy of Luneburg Zell.


Eff. Ch. Cal. five-leaved; petals five, arched, three-lobed at their summit, the middle lobe prolonged into a filiform kind of awn. Capsula five-grained, muricate.

Sp. B. Scabro Linn. spec. "Leaves lanceolate, rib and petioles prickly." (Lock it. 312. Aubl. Guian. 1 t. 241. t. 96.) Root perennial. Stem shrubby at bottom; branches alternate, long, angular, armed with short, reflexed, cari- ginous prickles. Leaves linear-lanceolate; alternate, toothed; midrib armed with recurved prickles; lower ones petioled, upper fiddle; filipes two, deciduous. Flowers axil- lary, fingle, on short peduncles. Found by Aublet in Guiana, between Cayenne and Couron. 2. B. carthaginensis, Linn. Mant. "Leaves ovate; rib and petioles prickly." (B. aculeata Jacq. Americ. 76. pl. 41.) Root perennial. Stem with branches spreading on every side in the manner of the common bramble, rather woody, five-cornered; the furrows and angles obtuse, armed with crooked reflexed prickles, tender branches, round, prickly, alternate. Leaves smooth, quite entire, or with only one or two ferrattures, alternate, deciduous, thofe on the old branches ovate, acute, four inches long or more, on the younger lanceolate-acuminate, left. Raceme short, aggregate, and axillary on the younger branches. Flowers without smell, small, white, very numerous. A native of Carthagena and St. Domingo. Obs. La Mark and Willdenow unite the two preceding; but in concurrence with professor Martyn, we have not ventured to oppose the authority of Jacquin, who affirms that his aculeata and Aublet's plant are not the same species.

B. ovata. La Mark. "Leaves ovate, serrated; petioles unarmed; branches five-angled, prickly; stem erect." (La Mark Illust. Pl. 142. Cavan. Diff. t. 142. f. 1.) Root perennial. Stem four or five feet high, without prickles; branches all ascending, rather slender, green, smooth, supple, prickly at the angles. Leaves about an inch long. Flowers axillary, in a small corymbus or umbel, from three to six together, on short peduncles. Calyx with five acute, expanded divisions. Petals trifid at their summit; the middle segment a very long purple or violet thread. Found in Peru by Joseph de Juliena, who sent seeds to the Royal garden at Paris. Described from the living plant by La Mark. B. cordata. La Mark (Böttnera aculeata Dombey Herb. Peruv.) "Leaves cordate, acuminate, ferrate, pubescent beneath; petals without prickles. Stem prickly." A Sarmentose shrub about eight feet high. Stem five-angled; prickles on the angles incurred. Leaves three inches broad. Flowers whitish, in small, peduncled, axillary umbels. Capsulae round, slightly hispid. Found by Dombey in the neighbourhood of Lima in Peru. B. tristilata. La Mark. "Leaves ovate-lanceolate, acuminate, very entire; branches prickly, round." La Mark Ill. Pl. 140. f. 2. Branches a little pubescent. Leaves petioled, two inches long, about half an inch broad. Capsulae small, round, more hispid than the preceding. Native of Peru, gathered by Joseph de Juliena. B. microphylla. Mant. "Branches zigzag, even; leaves ovate, obtuse, on short peduncles." La Mark. A herb. Stem four or five feet high, much branched at its summit; prickles foliary, stipular, horizontal; branches green, smooth, fupple, obtusely angular. Leaves sometimes emarginate, entire, smooth, about half an inch long. Flowers small, whitish green, peduncled, axillary, from three to five together. Calyx one-leaved, with five spreading divisions. Petals trifid; segments linear, the lateral ones the shortest. Capsulae thorny all over. La Mark. A native of America, cultivated in the Imperial garden at Vienna. 5. B. herbeeca. Willd. "Leaves heart-shaped, toothed, without glands; stem herbeaceous, without prickles." Willd. Rost. Corom. t. 29. A native of the East Indies, on the summits of mountains. 8. B. catalpaefolia. Willd. "Leaves heart-shaped, very entire; stem climbing, without prickles." Jacq. Hort. Sch. t. 46. A native of Caracas in South America.

Buttock, in Ship Building, that part of the after body of a ship, bounded by the counter and quarters, and having the stern poit in the middle. The buttock is the support of the after part of the ship; it ought not, however, to be too full, because then the ship would be difficult to steer; nor too lean, as, in a rough sea, the after part will fall down too much.

Buttocks of a horse, in the Mange, are situated below the crupper and the origin of the tail, and extend to the place where the hind-leg joins the body.

Button, in its most ordinary acceptation, signifies a well known appendage to garments for conveniently fastening them together.

Trifling as this article may appear to some of our readers to be in itself, there is certainly no manufacture which includes such an infinite variety of operations as that of the button-maker. The number of substances of which they are made is almost inconceivable, and each requires a distinct set of manipulations. Amongst them are gold, silver, plated copper, white metal, pinchbeck, steel, japanned tin, glafs, foil foices, mother of pearl, ivory, bone, horn, tortoise-shell, jet, cannon-coal, paper, leather, and a thousand others; exclusive of those buttons which consist of a mould of wood or bone covered with silk or moiré, and the manufacture of which belongs to a different class of artificers. It would very
very far exceed the limits of a work like the present if we were to enter into all the details of so multifarious a business as this: we shall therefore only trace a few outlines of the processes most ordinarily in use.

Of the manufacture of metal buttons. These are originally formed in two different ways; the blanks are either picked out of a large sheet of metal with a punch driven by fly-preps, or call in a pair of shears of moderate size, containing 10 or 12 dosen each. In this latter case, the blanks are previously fixed in the form, exactly in the centre of the impression formed by each pattern, to have their extremities immersed in the melted metal when poured into the flask, by which means they are consequently firmly fixed in the button when cooled. See Poucver. The former process is generally used for yellow buttons, and the latter for those of white metal.

We shall first give an instance of the former mode of procedure as used in the manufacture of gilt buttons. The gilding metal is an alloy of copper and zinc, containing a smaller proportion of the latter than ordinary brass, and is made either by fusing together the copper and zinc, or by fusing brasses with the requisite additional proportion of copper. This metal is first rolled into sheets of the intended thickness of the button, and the blanks are then pierced out as before mentioned. The blanks thus formed, are, when intended for plain buttons, usually planified by a single stroke of a plain die driven by the same engine, the fly-preps: when for ornamented buttons, the figure is frequently also struck in like manner by an appropriate die, though there are others which are ornamented by hand. The blanks, which are made with wonderful facility and expedition by means of a very curious engine, are then temporarily attached to the bottom of each button by a wire clamp like a pair of sugar-tongs, and a small quantity of folder and rein applied to each. They are in this state exposed to heat on an iron plate containing about a grofs, till the folder runs, and the flank becomes fixed to the button, after which, they are put singly in a lathe, and their edges turned off smoothly.

The surface of the metal, which has become in a small degree oxidized by the action of the heat in foldering, is next to be cleaned, which, in this, as in a great variety of other inlines in the manufacture of metallic articles, is effected by the process of dipping or picking; that is, some dozens of them are put into an earthen vellf pierced full of holes like a colander; the whole dipped into a vessel of diluted nitric acid; suffered to drain for a few seconds; again dipped successively into four or five other vessels of pure water, and then dried.

The next operation is the rough burnishing, which is performed by fixing the buttons in the lathe, and applying a burnisher of hard black flint from Derbyshire: the minute pores occasioned by the successive action of the heat and the acid are thus closed, and the subsequent process of gilding considerably improved, both with regard to economy and perfection.

The first step towards the gilding of all the alloys of copper consists in covering the surface uniformly with a thin stratum of mercury, by which means the amalgam, which is afterwards applied, attaches itself to it much more readily than it would otherwise do. This part of the process is called quicking, and is effected by flirling the buttons about with a brush in a vessel containing a quantity of nitric acid superfaturated with mercury; which latter is, of course, by the superior electivity of attraction of the copper for the acid, precipitated in its metallic state on the buttons, whose surfaces become uniformly and brilliantly covered with it. The mercury which hangs in loose droops on the buttons is then shaken off by jerking the whole violently in a kind of earthen endoth made for the purpose; and they are then ready for receiving the amalgam.

The amalgam is made by heating a quantity of grain gold with mercury in an iron ladle, by which means the former is soon dissolved, and the whole is then poured into a vessel of cold water. The superabundant mercury is strongly prefled out through a piece of chamois leather, and the remaining amalgam, which is of about the consistence of butter, is then fit for application.

This is performed by flirling the buttons, whose surfaces are already thinly covered, or wetted with mercury, in an earthen vessel with the requisite proportion of amalgam and a small quantity of diluted nitric acid, by which means the amalgam also attaches itself to their surfaces with a considerable degree of equality. The necessary quantity of gold is about five grains to a grofs of buttons of an inch in diameter.

The next process is the volatilisation of the mercury by heat, which is usually called by the workmen drying off. This is performed by first heating the buttons in an iron pan, somewhat like a large frying pan, till the amalgam with which they are covered becomes fluid, and feems diffused to run into drops, on which they are thrown into a large felt cap, called a gilding cap, made of coarse wool and goat's hair, and flirred about with a brush to equalize the covering of the surface by the gold. After this, they are again heated, again thrown into the gilding cap and flirred, and these operations successively repeated till the whole of the mercury is volatilised. This part of the process, as will readily be conceived, is extremely unwholesome, and has the most terrible effects on the constitution of the workmen, so that it would be no small defideratum (and it does not seem to be difficult), conveniently to effect this agitation and friction of the heated buttons in a covered vellf; in which cafe also, though of inferior importance, the volatilized mercury might be saved. For preventing the wale and injury attending this process, an apparatus resembling that delineated in Plate II. Miscellanies, fig. 1, has been partially and successfully adopted by Mr. Mark Sanders, an eminent button-maker of Birmingham.

"A hearth of the usual height is to be erected, in the middle of which a capacity for the fire is to be made; but instead of permitting the smoke to ascend into the top A, made of sheet or call iron, through which the mercury is volatilised, a flue for that purpose should be conducted backwards to the chimney B. An iron plate, thick enough to contain heat sufficient to volatilise the mercury, is to cover the fire-place at the top of the hearth C. There must be an ash-hole, D, under the fire-place. The square space E, seen in the fire-place, is the flue, which serves to carry the smoke back under the hearth into the chimney B. The door of the fire-place and ash-pit may either be in front, as represented in the plate, or at the end of the hearth at F."

It would be of great advantage if the space between A and the iron plate C was covered up with a glass window coming down to low as only to leave sufficient room for moving the pan backwards and forwards with facility. If the sides were also glass instead of brick-work it would be still better, as the work-people would be able to have a full view of their work without being exposed to the fumes of the mercury, which, when volatilised by heat communicated to the pan by the heated iron plate over the fire-place, would ascend into the top A, appropriated for its reception, and descend into the tub G, covered at top and filled pretty high with water. By this means the hearth would, in a fact, become a distilling
The water may be occasionally drawn out of the tubs by a siphon, and the mercury dizzled with heterogeneous matter may be triturated in a piece of flannel till it passes through, or placed in a pan of sheet iron, like a dropping-pan, in a sufficient degree of heat, giving it a tolerable inclination, so that the mercury, as it gets warm, may run down and unite in the lower part of the pan. But the mercury will more effectually be recovered by exposing the residuum left in the flannel bag to distillation in a retort made of iron or of earthen ware.

When the mercury is volatiled from the buttons, or, as the workmen denominate it, when the buttons are dried off, they are finally burnished, and are then finished and fit for carding.

The reader unacquainted with this branch of manufacture will be surprised to learn how far a small quantity of gold, incorporated with mercury, will spread over a smooth surface of copper. Five grains, worth one shilling and threepence, on the top of a groove, that is, 144 buttons, each of one inch diameter, are sufficient to excite the manufacturer from the penalty inflicted by an act of parliament; yet many, upon an assay are found to be deficient of this small quantity, and the latter fined and the buttons forfeited accordingly. Many hundred grooves have been tolerably gilt with half that quantity; so extremely far can gold be spread, when incorporated with mercury, over the surface of a smooth piece of copper." Philosophical Magazine, No. 35, p. 19, &c.

The white metal buttons which are composed of brass alloyed with different proportions of tin, after having been cast as before mentioned, are polished by turning them in a lathe, and applying successively pieces of buffalo skin glued on wood, (or buffs as the workmen call them) charged with powdered grindstone and oil, rottenstone and crocus martis. They are then en suite-boiled, that is, boiled with a quantity of grain tin in a solution of crude red tartar, or argol, and lastly, finished with a buff with finely prepared crocus.

Glas buttons. These articles are also frequently wholly composed of glas of various colours in imitation of the opal, lapis lazuli, and other stones. The glas is in the case kept in fusion, and the button, dipped out of it whilst in its plastic state, by a pair of irons moulds, like those used for casting pistol bullets, adapted to the intended form of the button: the workmen previously inferring the flanks into the mould so that it may become imbedded in the glas when cold.

Mother of pearl buttons. This substance is also frequently used in the manufacture of buttons; in which case, the mode of fixing in the flanks is somewhat ingenious. It is done by drilling a hole in the back which is under-cut, that is, larger at the bottom than the top, like a mortar, and the flanks being driven in by a steady stroke, its extremity expands on striking against the bottom of the hole, and it becomes firmly rivetted into the button. To these, foil-stones are also frequently added, in which case, they are usually attached with cinglas-glue. Steel studs are also often rivetted into buttons of this and various other kinds. See Foi-stones and Studs.

Shell buttons. This name is given to those buttons which consist of a hulk which is generally of bone without any flanks, but cored with catgut, and covered in front with a thin plate of metal struck with a die. They are now, however, much less in use than formerly. The backs are cut out with a brace whose bit is a circular saw, like that of a surgeon's trephine, and the four holes through which the catgut pales are drilled by four drills moving parallel to each other, and acting at once. They are then cored by children who tie the catgut on the inside; the cavity is filled with melted rosin, and the metal shell applied warm. The button is then profiled between two centres in a lathe, which are forced together by a weight acting on a lever, (an ingenious application of this engine frequently made use of in this manufacture), and the edge of the shell turned down during its revolution with a small burnisher.

In the year 1790, a patent was granted to Mr. Henry Clay of Birmingham for a new method of manufacturing buttons of flax, or flax fibre; and in 1800, Mr. Joseph Barnett of the same place obtained a patent for an improved mode of making buttons, by fixing two flanks, or other fastenings, on one button, one on each side, on the under surface, opposite to each other, instead of only one in the centre.

The practice of wearing buttons consisting merely of a mould covered with the same kind of cloth as the garment itself, being at present extremely general, it may perhaps be proper to remark, that this is prohibited on pain of pecuniary penalties, from 40s. to 5l. per dozen, by several statutes which have been made at different times for the prohibition of this manufacture; and under which, several convictions have taken place within a few years. These are, 10 W. 3. c. 2. 8 Ann. c. 6. 4 Geo. c. 7. and 7 Geo. c. 1. The importation of buttons is prohibited on pain of forfeiture, and penalty of 100l. on the importer, and 50l. on the seller, by 13 & 14 C. II. c. 13. § 2, and 4 W. III. c. 10. § 2.

By 26 Geo. III. c. 60, any person putting false marks on gilt buttons, engraving any marks except such as express the real quality, or any other word, except gilt or plated, incurs the penalty of forfeiting such buttons, and also 5l. for any quantity not exceeding 12 dozen; and if above, after the rate of 1l. for every 12 dozen. The penalty, however, does not extend to those who mark the words double and treble gilt, provided, in the case of double gilt buttons, gold shall be equally spread upon their upper surface, exclusively of the edges, in the proportion of 10 grains to the surface of a circle 12 inches in diameter; and in that of treble gilt, the gold shall amount to 15 grains in the same proportion. The penalty on making false bills of parcels, expressing any other than the real quality of such buttons, is 20l.; and that on mixing buttons of different qualities, forfeiture of the same, and 5l. for any number between one and 12 dozen, and above this number, 1l. for every 12 dozen. In order to ascertain what shall be deemed gilt or plated buttons, gilt buttons shall have gold equally spread upon the upper surface in the proportion of five grains to the surface of a circle 12 inches in diameter; and plated buttons shall have the superficialies of the upper surface made of a plate of silver fixed upon copper, or a mixture of it with other metals, previously to its being rolled into sheets or fillets. All pecuniary penalties may be recovered by action or suit within three calendar months, in the courts of Westminster, and one justice may, by warrant, cause metal buttons liable to
forfeiture, to be seized and kept in safe custody, to be produced as evidence upon any action, or cause them to be destroyed. Pecuniary penalties may also be adjudged by two judges in the place where the offender resides, or the offence is committed. This act, however, does not extend to buttons made of gold, silver, tin, copper, lead, or mixture of tin and lead, or iron turned, or of Bath or white metal, or any of these metals inlaid with fleec, or buttons plated upon shells.

Button, in Botany, a term sometimes used for a bud, in the technical language of the French naturalists; it is the middle flat between the eye and the cordon. Button, in Building, denotes a slight filling for a door or window, made to turn on a nail. Button of a lack, denotes a round head serving to move the bolt.

Button, in Chemistry, signifies the metal which is collected generally in a roundish mass at the bottom of a crucible after fusion, or which remains in the coppers after cupellation. Button, in Eucalyptus, signifies the end or tip of a foil, being made roundish, and usually covered with leather, to prevent making contusions in the body.

Button of the reins of a bridge, in the Meneget, is a ring of leather, with the reins put through it, running all along the length of the reins. See Bridge.

To put a horse under the button, is when he is flopped, having no rider on his back, by the reins being laid on his neck, and the button lowered, so that the horse's head is brought in by the reins, and fixed to the true posture or carriage.

Buttons, in reference to the Rigging of a ship, denote small pieces of thick leather under the heads of nails that are driven through ropes.

Button and Loop, a short piece of rope, having at one end a walnut knot, crowned, and at the other end an eye. It is used as a becket to confine ropes in.

Button's Bay, in Geography, lies on the west side of Hudson's bay, north of, and near to Churchill river. It is so called from sir Thomas Button, who, attempting to discover a north-west passage, lost his ship, and came home in a sloop built in the country.

Button-stone, are five small islands at the south end of Hudson's straits, near the north coast of Labrador, and near the entrance of cap Chidley. N. lat. 65° 18' to 65° 40'. W. long. 65° 10'.

Button Island, called also Bear island, an island of the Indian ocean, north of Java, and near Banca and Billiton. S. lat. 5° 49'. E. long. 105° 48' 30''. This island, as well as the Cap in the same longitude and S. lat. 50° 58' 30'', are deep and rugged, and difficult of access. At a little distance they appear like the remains of old castles, moniering into ruins, with tall trees growing upon the tops of them; but, at a nearer view, they exhibit traces of a volcanic origin. In the Cap are two caverns, running horizontally into the side of a rock, and containing a number of the birds' nests, so much prized by Chinese epicures. See Birds' Nests.

Button-flone, in Natural History, a kind of figured flone so denominated from its resembling the button of a garment.

Dr. Hook gives the figure of three forts of button-flones, which seem to have been nothing else but the filling up of three several forts of shells. They are all of them very hard flints, and have this in common, that they consist of two bodies, which seem to have been the filling up of two holes or vents in the shell. Polkh Works, p. 284. Dr. Plott describes a new species of button-flone, finely striated from the top, after the manner of some hair buttons, on which account it may be denominated porpises, unless we should rather take it for a new species of echinates. Hillt Ox. chap. 5. § 175.

This name is also given to a peculiar species of flate found in the marquifate of Barith, in a mountain called Vichtenberg; which is extremely different from the common sorts of flate, in that it runs with great ease into glas in five or six hours time, without the addition of any salt, or other foreign substance, to promote its vitrification, as other flones require.

It contains in itself all the principles of glas, and really has mixed in its substance the things necessary to be added to promote the fusion of other flaty bodies.

The Swedes and Germans make buttons of the glas produced from it, which is very black and shining, and it has hence its name button-flone. They make several other things of this glas, as the handles of knives, and the like, and fend a large quantity of it unwrought in round cokes, as it cools from the fusion, into Holland.

Button-tree, or Button-wood, in Botany. See Cephalanthus and Conocarpus. In North America the Platanus occidentalis is also called button-wood.


BUTTONNESS, in Geography, a cape of Scotland, on the south-east extremity of the county of Angus, in the German ocean, at the north-west of the entrance into the frith of Tay; 9 miles E. of Dundee. N. lat. 56° 26'. W. long. 1° 53'.

BUTTRESS, a buttment, or mass of flone, or brick, ferving to prop or support the sides of a building, wall, or the like, on the outside; where it is either very high, or has any considerable load to sustain on the other side, as a bank of earth, &c. See Arch, and Arc-boutant.

The theory and rules of buttresses, or props for easins walls, is ranked among the defects of architecture. They are usually placed leaning against the edifice they are to sustain. We find them used against the angles of fteeples, churches, and other buildings of stone; also along the walls of such buildings as have great and heavy roofs, which would otherwise be subject to thrust the wall out. They are also placed as supports against the feet of arches turned crofs great halls, in old palaces, &c. and are much used in fortification.

Buttress, Buttice, or Butteris, likewise denotes a tool, made of fleec and fitted to a wooden handle, used by farriers, to pierce the sole of a horse's foot, which is overgrown; to pare the hoof; to fit the shoe; and to cut off the skirts of the sole that overake the shoe.

BUTTS, William, in Biography, born towards the end of the 15th century, was educated at Gouville college in Cambridge, where he appears to have taken his degree of doctor in medicine. Being distinguished for his superior abilities, he was appointed physician to king Henry VIII.; and though he was not one of the founders of the College of Physicians, as Granger calls him, he was one of their early members, being admitted in the year 1529; and was in such repute for his learning, that Dr. Caius dedicated his works to him. It is also probable that he assisted the surgeons in procuring their charter, as his portrait is among those of the members who were present when it was delivered to the company. Goodall's College of Physicians. Aikin's Biog. Men. of Medicine.

BUTTSTADT, or Butzstett, in Geography, a town of Germany, in the circle of Upper Saxony, and principality of
of Weimar, situated on the Lothe, and carrying on a great trade in cattle with Poland and Hungary; 9 miles N. of Weimar.

**BUTUA, Budoa, in Ancient Geography, a town of Ilyria, named Butobac by Steph. Byz., and Butua by Ptolemy. See Budoa.**

**BUTUMTUM, or BYTONTUM, a town of Italy, in that part of Apulia called Peucetia, south-east of Bavium, on the Trojan way.**

**BUTUS, in Entomology, a species of Sphinx (Zygaena, Fabr.), the wings of which are greenish and shining, at the tips darker; abdomen fulvous. Fabricius. Inhabits South America.**

**Butus, Sphinx butus of Cramer, is the species described by Fabricius under the name of Gnota, which see.**

**Butus, or Butis, in Ancient Geography, a town of Lower Egypt, seated on the west of that branch of the Nile anciently called Hermopolitcus, and which running near to Schennytus, now called Samaone, discharges itself into the lake of Bourlos or Berelo. It was famous for a oracle of Latona, called Butis, and in some respects the fame with Isis, which was consulted by persons that repaired to it from all parts of Egypt. The temple of this divinity was spacious and magnificent; surrounded by a portico 50 feet high, which was supported by marble columns, and the sanctuary was formed out of an enormous mass of granite, 60 feet square and 6 thick, and weighing 15,000,000 pounds. It was hewn in a quarry in the island of Philæ, near the catacombs, and conveyed on rafts, through a distance of 200 leagues, to the place where it was deposited. Butus was also decorated with two temples in honour of Apollo and Diana. Herodotus, l. xi. c. 155. Strabo, l. 17. vol. ii. p. 800.**

**BUTZBACH, in Geography, a town of Germany, in the circle of the Upper Rhine, and principality of Upper Hesse, situate in a marshy, but fertile, plain; 7 miles S.S.W. of Gießen.**

**BUTZOW, a town of Germany, in the circle of Lower Saxony, and principality of Schwerin; 24 miles N.E. of Schwerin.**

**BUUDE, or BUDENSTADE, a trading place and fishing port of Iceland.**

**BUVETTE, or Beuvette, in the French Laos, an established place in every court, where the lawyers and counsellors may retire, warm themselves, and take a glass of wine by way of refreshment, at the king's charge.**

**There is one for each court of parliament, but these are only for persons belonging to that body; there are others in the palais whither other persons also resort.**

**BUXALOONS, in Geography, an Indian town of America, on the north-west bank of Alleghany river; nearly 25 miles from Fort Franklin, at its mouth.**

**BUXBAUM, John Christian, in Biography, applied himself solely to the study of botany, in which he acquired considerable celebrity. His first work, "Enumeratio Plantarum in agro Halens, locoque vicinis naecentum," was published in 1721 at Halle in Saxony, near which place he appears to have been born. Haller commends this catalogue, which contains many of the minuter plants, mosses, and fungiæ, some of which were then first noticed. This procured him so much credit, that he was sent for to Ruffia and made member of the academy at Peters burg. He then went to Constantinople, and visited several of the islands in the Archipelago, attentively examining all the varieties of plants, found in those rich countries. As the fruit of these travels, he published, in 1739, 4 to. "Centuria prima Plantarum circa Byzantium et in Oriente observatum. Petrop." in which he briefly described some new and many very rare plants.**

He died the following year, but had previously prepared a second, third, and fourth centuries, which were published in 1729, 1733, and 1740. A fifth century, with an appendix, was added. Besides these, he was author of several communications on the subject of botany, which were published in the first, second, third, and fourth volumes of the Commentaries of the Imperial Academy at Petersburg. Hall. Bib. Bot.


**Gen. Ch. Cepha. ovate, oblique, gibbous, on one side. Perigone double; outer one of sixteen teeth truncate, inner membranaceous, plaited.**

**Species, 1. B. aphylla. "Capsule on a fruit stalk; leaves none." Linn. Memo, 5. tab. 1. Dilig. Mufc. tab. 68. 5. Flor. Dan. 44. La Marc. Ill. Pl. 872. Fruit stalk swelling at the base into a black, somewhat villous, small bulb; half an inch long, dark, red, glofy, erect. Capsule of an uniform pale colour, ovate, gibbous, about the size of a common pea. The only moss known without leaves. Turner. Spic. Mufc. Hib. This curious plant was first discovered by Buxbaum on the banks of the Volga, near Alfran; afterwards by Mont in Italy, and Celsius in Sweden, both of whom sent specimens to Dillenius; and by Haller in Switzerland, and others in different parts of Europe. It has lately been found near the lake of Killarney in Ireland. 2. B. folio. (B. scillis SEMID. Hed. Phaenem Flor. dan. t. 249. upper fig. Phaeceum montanum Hib. Maximum Light. Sphagnum acaulem maximum Dilæ tab. 22. f. 13.) "Stem none; capsule nearly femail, leaves linear-lanceolate." Dr. Smith. La Marc. Illust. Pl. 872. f. 2. Eng. Bot. 329. Stem very short, or rather none. Leaves numerous, lanceolate, flat, keeled, acuminate; inner ones with a britlly tooth on each side towards the summit. Capsule solidary, nearly femail, the size of a grain of wheat, ovate oblique, smooth green; calytrix awl-shaped, red; lid conic, frilated; exterior fringe obsolete; interior membranaceous, white, plaited, cloved. Dr. Smith. A native of England, and other parts of Europe.**

**BUXE FLORE, in Geography, a bay on the west coast of Wett Greenland. N. lat. 64° 15'. W. long. 49° 40'.**

**BUXENTUM, now Policofera, in Ancient Geography, a town of Italy, in the eastern part of Lucania, called by the Greeks Pyrus. It was founded by Myceutus, a prince of Meglana in Sicily, and afterwards deferted. It was colonized by the Romans. Strabo, Livy. According to Strabo (l. 6. vol. i. p. 253.) Pyrus was the name of a promontory, port, and river.**

**BUXI, in Entomology, a species of Tipula (Tipula flavella of Schrank). The colour is yellow: head and thorax black; wings brown and incumbent. A native of Europe.** Gmel. &c.

**Bux, a species of Chermes, having fatoraceous antennæ, and yellowish brown wings, Pflya viridis, &c. Geoffroy.**

**BUXTEHÜDE, Dietrich, in Biography, son of John Buxtehude, organist at St. Olais at Elfinour, was a disciple of John Thiël, and organist of the church of St. Mary in Lubeck. Mattheison, in his Vollkommen Capellmeister, p. 130. celebrates him as a famous organist and composer, and speaks of six futes of lefions for the harpsichord of his composition, in which the motion of the planets is represented or delineated. With this is printed a choral composition to German words, being a lamentation on the death of his father. In 1696 he published two sets of finas a violins, viola
Mattheson, in his Life of Handel, tells us, that "he and Handel travelled together to Lubeck, upon there being a vacancy in an organist's place, and in the organ, composed several double fugues, *da monte not da piano.*" Butzlebode was then at Lubeck, and an admirable player on the organ; however, Handel's powers on that instrument astonished even those who were accustomed to hear that great performer.

Butzlebode, in Geography, a town of Germany, in the circle of Lower Saxony, and duchy of Bremen, seated on the Elbe, which fills the ditches. The fortifications have been raised: 16 miles W.S.W. of Hamburg.

Buxton, Jeredim, in Geography, a person deserving to be recorded on account of his singular memory and powers of calculation, was the son of a school-master at Elmton, a small village near Chesterfield, in Derbyshire, and born, probably, in 1704 or 1705. His education, notwithstanding the profession of his father, was so much neglected that he was never taught to read or write. His whole attention seems to have been absorbed by the different denominations and relative proportions of numbers to such a degree that he took hardly any notice of external objects, except with respect to their numbers. When any interval of time was mentioned to him, he immediately gave the amount of it in minutes; and he assigned also the number of hair-breadths in any distance that chance to be spoken of, although no question was proposed to him. To such a degree was he capable of abstraction and of fixing his attention, that no noise discomposed him, and that no incidental question or occurrence could divert his thoughts, or occasion any confusion, so as to prevent his renewing and purifying his calculation, which he performed by mere memory, without the aid of pen or paper. It would be endless to recite particular instances of his powers of computation, and of the methods he used for solving the most obscure and intricate questions relating to numbers. By merely flitting over a piece of land he could tell the contents of it as accurately as if he had measured it by the chain. His confluent application to figures prevented his making the smallest acquisition in any other branch of knowledge; nor did his ideas seem to be extended beyond matters of mere calculation.

In 1754 he visited London, and was introduced to the Royal Society, before which he gave several satisfactory evidences of his peculiar talents for computation. In this visit his curiosity was excited by a strong desire to see the king and royal family, but in this he was disappointed. At the play-house he seemed to be altogether uninterested by the splendour of the scenery or the action of the performers; and during the dances his attention was engaged in reckoning the number of steps. After a fine piece of music, he declared that the innumerable sounds produced by the instruments perplexed him beyond measure, but he counted the words uttered by Mr. Garrick in the whole course of the entertainment, and affirmed that in this he had perfectly succeeded. He was married and had several children. He subsisted by labour, and remained contented in obscurity; and prolonged his life to the age of about 70 years. Biog. Dict.

Buxton, in Geography, a large handsome village of Derbyshire, in England, is celebrated for its mineral waters, the fame of which occasions it to be much frequented by vulgarians, and many other persons, who resort hither for health, or pleasure. It is situated in two parishes, but the principal part forms a chapelry to Bakewell. Buxton lies in an extensive hollow, with bleak elevated tracts of moor land completely surrounding it. Several plantations have, however, been made of late years on the adjacent hills, and some land cultivated. The late Dr. Gale, as appears from a manuscript of his quoted in Gough's Additions to the Brit. Anna., placed the Aquis of Ravannas at Buxton, though he had previously conjectured it to be at Aidens, in Northumberland. That its warm springs were known to the Romans, is evident from various concurrening circumstances. Several ancient roads concentrate at this spot, particularly one called the Ithway, or Bathom-gate, which commences at Brough, a Roman station, near Hope, and was traced by the late Mr. Pegge; and another, that came from Manchester, and is known in different parts of its course by the appellations of High-street, Street-fields, Street-lane, Old-gate, &c. Specimens of Roman workmanship have also been discovered here at different times. Bishop Gibbon mentions a Roman wall "cemented with red Roman plaster, close by St. Anne's well, where are the ruins of the ancient bath." This wall was taken down in the year 1790, when Sir Thomas Delves of Cheshire, in memory of a cure he had received from the waters, erected a stone above over the well. Some capacious leaden cisterns, and different articles, apparently Roman, were found in digging the foundation. The shape and dimensions of the ancient bath, which was about six yards from the present bath-room, were clearly discovered when the building of the Crescent commenced in the year 1751. Its form appeared to be an oblong square; it measured from east to west thirty feet, and fifteen in a contrary direction. The spring was situated at the well-end; and at the east might be perceived a flood-gate, by which the water was let out. The wall was built with limestone, covered on the outside with a strong cement; the floor consisted of lime mixed with coarse sand, saturated with blood. Near one end a cavity was formed in the floor resembling the figure of a boat, extending circularly in length almost from one side wall to the other; its breadth was about two yards; and its depth below the level of the floor, at the deepest part of the curvature, about eighteen inches: the water was conveyed into this room by a leaden pipe. Though the very early use of the Buxton waters is apparent from the above circumstances, we have no record of their being in use in the middle ages, or of their having obtained any high reputation till the sixteenth century, when Dr. Jones gave them celebrity by a treatise on their beneficial qualities. About this time the earl of Shrewbury erected a house for the reception of visitors, on the site of the building now called "the Hall," part of which belonged to the old fabric. This hall becoming insufficient to accommodate the increasing number of visitors, most part of it was taken down in 1670, when a new enlarged edifice was erected on the spot by William, third Earl of Devonshire. This building, which has been frequently improved, is still the principal hotel for the reception of company. Within it are the baths, adjoining, but in distinct apartments, five in number; the gentlemen's, the ladies', the poor's, and two private. The springs have been calculated to throw up about sixty gallons of water every minute. The time requisite to fill the baths is two hours and fifty minutes. The water is usually drunk at St. Anne's well, a modern, but elegant little building in the antique style, where it is conveyed into a white marble bason, from the original spring, through a narrow grit-stone channel. This well is regarded as one of the seven wonders of the Peak; chiefly from the circumstance that both hot and cold spring water may be obtained within twelve inches of each other, from a double pump, situated on the opposite side of the building to that which contains the bason. The principal ornament of Buxton is its Crescent, a magnificent range of building, which was erected...
erected by the duke of Devonshire within the last twenty years, from the design and under the superintendence of Mr. Carr, the architect. It consists of three stories; the lowest ruffe, forming a beautiful colonnade, which extends the whole length of the front, and is seven feet wide, within the pillars and eleven feet high. The divisions between the windows above are formed by Ionic pilasters, which extend an elegant half-round that flanks the whole front, the span of which is 257 feet. The Crescent is built with grit-stone obtained near the spot, and faced with fine freestone, procured from a quarry about two miles distant. Near the back of the Crescent are the flabels, an extensive pile, which was also constructed at the charge of his grace of Devonshire, who is said to have expended 120,000l. in completing the whole. The poor who resort to Buxton, on bringing a certificate from the minister of their parish, and medical attendant, vouching for their being proper objects of charity, are admitted to partake of the benefit of a fund formed by collecting one shilling from every visitor who stays here more than a day. This is appropriated to the purchase of necessary medicines, and supplying fourteen indigent persons with six shillings weekly for one month; they are also permitted to bathe gratis. Buxton feafore generally commences in June, and concludes in October. In these months assemblies are held three days in the week, and a small theatre is opened on the other three days.

Buxton contains about 100 houses, chiefly of stone; the inhabitants, generally redundant, are about 400. The visitors in the bathing seafore are uncertain, but are estimated at 500 annually, who are the principal support of the inhabitants. Several shops for the manufacture and sale of ornaments of flour spar and alabaster are established in this village. The place where the crystals, denominated Buxton diamonds, are found, is about two miles south-west from the village: it is a waste piece of land, several acres in extent, and called the Diamond Hill.

Between one and two miles westward of Buxton, in the vast mafs of limestone, which ranges in this part of the country, is a fissure, or cavern, called Poole’s Hole, from an ancient tradition, that an outlaw, named Poole, once made it his residence. This being considered a great natural curiosity, we shall be rather particular in our description of it. Nothing grand nor picturesque marks the entrance into this cavity, neither does its interior present any of the magnificence which so eminently distinguishes the Peak cavern at Calleiton. It opens with a crevice so low and contracted that the curious visitor is obliged to proceed with caution in a sloping posture nearly twenty-five yards, when the passage widens into a spacious cavity, from whose roof depends a quantity of stalactite, produced by the droppings of water impregnated with calcareous matter. Part of this substance adheres to the roof, and gradually forms those pendant spiral masts called stalactites, or (locally) water-ladders; another portion drops with the water to the ground, and attaching itself to the floor is there deposited, and becomes the stalagmite, a lumpy mafs of the same matter. One of the former, of immense size, called the Pitch of Bacon, occurs about the middle of the cavern, which here becomes very narrow; but, after a short space, spreads again to a greater width, and continues large and lofty, till we reach another surprizingly large mafs of stalactite, to which the name of Mary Queen of Scots’ Pillar is attached, from the tradition of that queen having visited this cavern and advanced thus far into its recesses. As this pillar cannot be passed without some difficulty, few people venture beyond it; and, indeed, the remaining part of the cavern offers few objects to repay the fatigue of exploring it. The money given by visitants is divided among ten aged women who reside here, and act as guides by the permission of the duke of Devonshire, to whom the ground belongs. The extent of the cavern does not exceed three hundred yards.

The flume in this neighbourhood, though of several kinds, is usually applied to the making of lime, many hundred tons of which are here burnt annually. The workmen and their families, like the Troglodytes of old, reside in caves; for any other name would be ill-adapted to describe their habitations, which are scooped out of the hillocks or small mounts, formed with the refuse of the lime-kilns. The erust of these heaps of rubbish having been confounded by time and the weather, is now impervious to the rain; and being left of sufficient thickness, forms a subterranean roof. Each habitation contains two or three rooms; but few have any other light than is admitted through the chimney and door-way.

About three miles from Buxton and two from Chapel-inthe-Frith, in a pastoral field, is a natural curiosity, called “The Marvel Stones,” of which Mr. Bray gives a particular description in his Tour through Derbyshire, and to which probably Dr. Stukely alluded, when he mentions having heard of what appeared to him a druidical work near Hope. Near the northern extremity of this eminence called Combe-Mafs, three miles from Buxton, are some ancient military works, consisting of two deep trenches, which run parallel to each other to an extent of about two hundred yards.


**Buxton Water.** The native warm springs that have given so much celebrity to this town are very numerous, and afford a great abundance of water for every purpose both of bathing and domestic supply.

Buxton water is perfectly clear and colourless, entirely void of smell and taste; nor has it any quality, besides its temperature, which distinguishes it from the parcell of the numerous springs with which all mountainous countries usually abound. The heat is very uniformly 82° in all seasons and circumstances, taken in the flume reservoir which first receives it, and hence, though to the touch this water is positively cold, or rather cool, it is entitled to be considered as a warm spring, being uniformly of a much higher temperature than common springs. In St. Anne’s well, the original and principal reservoir, a quantity of thin steam is constantly given out from the water which hovers over its surface and contributes to keep up the heat during the bathing.

Along with the water, which rises up through the crevices of the floor of the well, a considerable number of air-bubbles are constantly seen to rise at the same time, and palling through the water break at its surface. These may readily be collected by immersing a bottle and funnel full of water in an inverted position and intercepting them in their passage upwards. Mr. Pearson was the first chemist who ascertained the nature of this gas, and he found it to consist almost entirely of azotic gas mixed with a small portion of atmospheric air, and not carbonic acid gas as had been conjectured by preceding observers. A small portion of the same gas also is found in combination with the water, which is readily separable by boiling. The water then yields about a sixty-fourth part of its bulk of this air.

The analysis of the water exhibits a few familiar substances, but in very minute proportion and perfectly insignificant; for, in fact, it is by its purity and warmth that this natural spring is distinguished. By Dr. Pearson’s experiment a gation
gallon of the water yielded on evaporation only 15 grains of red lead, or which 14 grains was estimated to be muriatic acid, 1/30 to be sulphate of lime, and 101/2 to be carbonate of lime; held in solution by a slight excess of carbonic acid.

The water of Buxton is employed largely both for external and internal use. Its uniformity of temperature and the great abundance of the supply give to Buxton uncommon advantages as a health resort. A flight shock of cold is felt on the first immersion, which is immediately succeeded by a very agreeable glow over the whole body; and it is to be observed that the shock is so slight, owing to the small difference between the heat of the water and that of the body, as to be borne without inconvenience by very delicate and irritable habits, in whom a rougher operation of the cold bath or immersion in the sea often occasions permanent head-ache, fickness, languor, catarrh, and other inconveniences.

There is not, however, the least reason to suppose any thing peculiar, or any occult salutary qualities in the Buxton bath, more than in any other pure water heated to 82° and confined in a fene referre for to retain the same temperature during the whole time of bathing. Therefore all the regulations and medical directions for its use may be entirely referred to the article Bathing.

Buxton water is also taken internally by invalids, and many important virtues have been attributed to it, thus used. That it contains nothing deleterious may be safely pronounced, both from the evidence of chemical analysis, and (what is more to the point) from the well-known fact that most of the water used at the principal hotels for making tea and other common purposes is derived from the same source. Therefore, whatever effects may be laid on its supposed inflammatory tendency in certain cases, it cannot be doubted but that to the reft of the world it is a pure, salutary, innocent beverage.

Like other warm pure waters it is highly advantageous in many painful complaints of the kidneys and bladder and urinary passages; like them it powerfully relieves many of the most distressing dyspeptic symptoms, and like them it shews no decided action on the bowels, its use being sometimes attended with diarrhoea, sometimes with the opposite state, which last generally demands the assistance of active purgatives.

The cafes for which Buxton is referred to are mostly chronic, such as gout, rheumatism, derangement of the biliary and digestive organs, diseases of the urinary passages, and the like, and it is no small additional recommendation to the invalid to be abundantly furnished with every thing that can contribute to convenience, comfort, and amusement.

**Buxton,** in Geography, a township of America, in the county of York and district of Maine, seated on Saco river; 16 miles north-westly from Pepperell-borough, at the mouth of the river, and 118 miles N.E. from Boston; containing 1564 inhabitants.

**Buxtorf, John,** in Biography, an eminent Hebrew scholar, was born at Camden in Welsphalia, in 1564. As to his religious persuasion, he was a Calvinist; and having settled at Basf, he was appointed by the magistrates prof. of the Hebrew and Chaldee languages, which he taught with great reputation till his death in 1629. In order to perfect himself in these languages, he obtained the affiance of many learned Jews, and thus acquired a predilection in favour of rabbinical learning. His works, in the department of literature to which he was devoted, were numerous, learned, and useful. Thref are as follow; viz. "Lexicon Chaldaicum, Thalmudicum, et Rabbinicum," Basf. fol. 1630; a small "Hebrew and Chaldaic Dictionary," compiled of words from the Bible only, 12mo.; "Theaurus Latinae Hebraicae," 2 vols. 8vo.; a small "Hebrew Grammar," much esteemed; the Leiden edition of which was reprinted by Leiden; a large "Hebrew Bible, with the Rabbinical and Chaldaic Paraphrases, the Massora, Tiberias, &c." 4 vols. fol. Basf, 1618 and 1619; "Syagapha Judica," a collection of Jewish modes and ceremonies, intended to expel the Jews, but abounding too much with purities intermixed with a mass of learning; "Institution Epitoliari Hebraica," a collection of Hebrew letters; "Concordantia Hebraica," 8vo. 1632; "Bibliotheca Rabbinica," with a treatise "De Abbreviaturi Hebra-um," Nouv. Dict. Hist.

**Buxtorf, John,** son of the preceding, was born at Basil in 1599, and directing his attention to studies similar to those of his father, he became professor of the oriental languages in his native city. Besides translations of some of the rabbinical writings, such as the Moch Neovoch of Maimonides, and the book called Cofi, he published "A Chaldaic and Syriac Lexicon," 4to. 1621; and having adopted his father's sentiments with regard to the Hebrew vowel points, he defended them against Ludovicus Capellus in a book entitled, "Tractatus de Punctow Voconum et Accentuum in Libris Veteris Tellamenti Hebraici Origine, Antiquitate et Authoritate," Basf, 1648; and afterwards in a more considerable work, entitled, "Anti-critica, seu Vindiciae Veritatis Hebraicae adversus Ludovicapi Capellia Criticum, quam vocat Sacram," Basf, 1653. He published likewise "Dif- fertationes on the Old and New Testament," "Exercitaciones Philologico-criticas," "Florilegium Hebraicum," and other works. He died at Basil in 1664.

There were two other Buxtorfs, John, James and John, successively professors in the same chair at Basf, and both writers on subjects of literature. In general, the school of the Buxtorfs has been reproached, notwithstanding its acknowledged learning, with too great predilection for the rabbinical doctrines; and their decisions with regard to the authority of the Hebrew points have been gradually losing ground, and have now comparatively few advocates, after having been very prevalent through Germany and other Protestant countries. Nouv. Dict. Hist.


* Male flowers prominent from the buds. Gen. Ch. Cal. perianth three-leaved; leaves roundish, obtuse, concave, spreading. Cor. petals two, roundish, concave, similar to those of the calyx but larger. Stam. filaments four, awl-shaped, erect, expanding, rather longer than the calyx, others erect, twin. Pyf. rudiment of a germ without style or stigma.

* Female flowers from the same bud generally single, surrounded by eight or ten males. Cal. perianth four-leaved, similar to those of the male. Cor. petals three, similar to those of the male. Pyf. germ roundish, obtusely three-corned; fyles three, short, permanent; stigma obtuse, bifid. Linn. Peric. capule globular, very smooth, gloify, coriaceous, three-grained, before it opens three-creaked, three-valved; valves two-horned; grains of a paper-like substance, two-valved, opening elastically. Seeds two in each cell, ovate, attenuated upwards, triangularly compressed, obliquely truncate at the summit, somewhat spongy, smooth. Gart. Eff. Ch. Male. Cal. three-leaved; petals two, rudiment
of a germ. Female. Col. four-leaved. Pet. three; styles three; capsule three-seeded, three-celled; seeds two in each cell.

Species. 1. B. bakeriana, La Marek. "A tree; leaves oblong-obovate, an inch and half long; flowers very long. Branches straight, four-cornered. Leaves opposite, on short decurrent petioles, entire, smooth, shining, concave. Flowers in large bunches; anthers linear. A native of Majorca, &c. Cultivated in the royal garden in Paris, but is tender, and does not endure severe frosts.

2. B. arborescent (Sempervirens, Lam.). "Leaves ovate-oblong, attenuated towards the summit; anthers ovate; stem arborescent." La Marek. A shrubby tree, from twelve to sixteen feet high. Stem twisted, branched. Leaves opposite, permanent, very entire, emarginate, shining, often reddish in winter. Flowers in small or moderate bunches; filaments not more than the sixth of an inch long. There is a variety with narrow leaves, as well as the next species, is said by Miller to be specifically distinct. Its wood is of a close grain, very hard and heavy, and on that account is much used by the turner, engraver, carver, mathematical instrument maker, comb, and pipe, or flute maker, and a variety of other artisans. A native of most parts of Europe, from Britain southward. It is found abundantly in the south of France, Savoy, and Italy, and in the temperate parts of Asia and America. In England it has given name to Box-hill in Surrey, Boxwell in Gloucestershire, and Boxley in Kent, all which are mentioned by Ray as producing it; but on account of the value of the wood, the quantity is now much diminished. Mr. Woodward has more recently observed it on the chalk hills near Dunstable.

3. B. suffruticosa, dwarf box. "Leaves small, oblong; stem a low under shrub." La Marek. agrees with Miller in treating this as a distinct species, though nearly related to the preceding. When suffered to grow freely, it never rises to a greater height than about three feet, and grows in thick, much branched tufts. Its leaves also are small, and rather ovate or roundish-oval, with a white line on their back, more strongly marked than in the preceding species. It grows wild in many parts of France, by the road sides, about villages, and in rocky waste places. It is singular that it does not flower when cultivated in England, and was never seen in that state by Mr. Miller, though encouraged to grow many years in the greatest luxuriance. La Marek does not mention this circumstance, nor, indeed, can it be supposed to be thus barren in France, where it is said to be truly indigenous. 4. B. myrsifolia, myrtle-leaved box. "Leaves small, oblong, rather narrow; stem a low under shrub." La Marek. It resembles the preceding in its size, but differs both in habit and foliage, not forming a thick tuft or bush, but having an elongated stem like a tree, with open branches; its leaves are rather narrow, with scarcely any appearance of a white line on their surface. A small branch in flower, communicated to La Marek, had no female flowers. Native place not known. Ence: Methodique. Box was formerly employed as a medic in various diseases, but in Ray's time was grown into diffus about on account of its offensive smell; and before his time even its medical virtues began to be called in question. Dr. Withering, however, has recently recommended it; observing, that an empyreumatic oil diffused from its flowers is often used as a topical application for the piles; that it frequently relieves the tooth-ache, and has been given internally in epilepsys, and that the powdered leaves destroy worms.

Propagation and Culture. The arborecent box was much admired by our ancestors on account of its being easily clipped into the shape of animals, and other fantastic appearances. It was in equal request with the Romans for the same purpose. The younger Pliny, in particular, gives a florid description of the pleasure grounds at one of his country seats, in which, among other curious devices, the letters of his own name, and of other words, were orderly expressed in rows of horn box. These extravagances have now given way to a fitter style in ornamental gardening; but box is still cultivated in our nurseries as a beautiful evergreen; and, left to its natural growth, is a pleasing addition to the shrubbery. It has the additional recommendation of thriving under the thickest shade, and is able to withstand the fiercest weather of our climate. The dwarf box is used to divide the beds from the walks of flower-gardens; and though it has been condemned as affording shelter for noxious insects, the same objection will lie, in some degree, against every other kind of vegetable bordering; but supposing it to be peculiarly liable to this inconvenience, the evil is considerably counterbalanced by its elegance and durability. It may be propagated by cuttings, layers, and seed. The cuttings should be planted, about the time of the annual rains, at the distance of four inches from each other; they should be a foot long, and rather more than half of the length should be covered by the soil. A flip of the last year's growth, clipped from the wood, is an excellent root. The cuttings or slips may stand three years, and should then be transplanted into the nursery in moist weather, any time between August and April. The layers should be earthed between Michaelmas and March. This, as professor Martyn observes, is one of its natural methods of propagation, for when it breaks down by its own weight, or by a fall of snow, it sends out fibres soon after it has come into contact with the ground. The feed should be fown, as soon as it is ripe, on a light loam or sand in a shady border, and regularly watered. Some will come up the next spring, but some will lie in the ground till the next season. They should then have the same treatment as the cuttings. This is said to be the only method in which large trees can be raised. The best time for removing the tree is October. Martyn's Miller.

BUXY, in Geography, a town of France, in the department of the Saône and Loire, and chief place of a canton in the district of Chalon-sur-Saône, and 8 miles S.W. of it. The place contains 1603, and the canton 14,089, inhabitants; the territory includes 277½ square miles and 31 communes.

BUY De Mornas, Claude, in Biography, was born at Lyons and died at Paris in 1783. He is principally known as the author of an instructive and useful Atlas of Geography and History, Paris, 1752 and 1770, 4 vols. 4to. He also published a Cofmography, on the same plan, in 1779.

Buy, in Geography. See Buxis.

BUYING, the act of making a purchase, or of acquiring the property of a thing for a certain price. Buying stands opposed to selling, and differs from borrowing or hiring, as in the former the property of the thing is alienated for perpetuity, which in the latter is not.

By the civil law, perfons are allowed to buy hope, from pretios emicis, that is, to purchase the event or expectation of any thing; e. g., the fish or birds a person shall catch, or the money he shall win in gaming.

There are divers species of buying in use among traders; as buying on one's own account, opposed to buying on commission; buying for ready money, which is when the purchaser pays in actual specie on the spot; buying on credit, or for a time certain, is when the payment is not to be presently made, but, in lieu thereof, an obligation given by the buyer for payment at a time future; buying on delivery, is when the goods purchased are only to be delivered at a certain future time.
BUZ

BUYING the resaful, is giving money for the right or liberty of purchasing a thing at a fixed price, in a certain time to come; chiefly used indring for shares in flock. This is sometimes also called by a cant name, buying the bear.

BUYING of titles. See MAINTENANCE.

BUYING the Small-pon. See SMALL-PON, Inoculation of.

BUYTRAGO, in Geography, a small town of Spain, in New Castile, on the confines of Old Castile, in front of which the mountain-stream Laoya winds along a deep rocky bed; while, on the other side, the town, with its towers and steeples, leaps romantically against a steep ascent in a reccefs among the mountains, that separates the two Castiles. These mountains are rich in minerals; and the environs of this city, which is episcopal, are famous for the wood which they furnish. It is 36 miles N. of Madrid, and 18 E. of Segovia.

BUYTRON, a town of Spain, in Andalusia; 27 miles N.W. of Seville.

BUZANÇAIS, a town of France, in the department of the Indre, and chief place of a canton in the district of Chateauroux, 11 miles W.N.W. of it. N. lat. 46° 38'. E. long. 1° 30'. The town contains 3,199, and the canton, 11,130, inhabitants; the territory includes 422 1/2 kilometres and 13 communes.

BUZANCY, a town of France, in the department of Ardennes, and chief place of a canton in the district of Vouziers, 2 leagues N. of Grandpré. The town contains 774, and the canton 875, inhabitants; the territory includes 265 kilometres and 24 communes.

BUZARA, in Ancient Geography, a mountain in the eastern part of the interior of Africa. Ptolemy.

BUZARAS, a town of Africa, in Mauritania Caepeliacis.

BUZAW. See Butza.

BUZERI, a people of Abyssia, in Cappadocia, on the west of the Euxine.

BUZES, a people of Africa, in Marmarica.

BUZET, in Geography, a small town of France, in the department of the Upper Garonne, 44 1/2 leagues N.E. of Toulouse. N. lat. 43° 47'. E. long. 1° 45'.

BUZIKIN, a town of Siberia, 220 miles E. of Eufeld.

BUZIM, a town of Siberia, on the Tchulim, 80 miles N.E. of Tomik.

BUZULEITSK. See Busulutsk.

BUZWARKA. See BeZara.

BUZY, a town of France, in the department of the Meuse, and district of Verdun, 13 miles E. of it.

BUZZARD, in Ornithology, the trivial name of several species of the falcon tribe, as, for instance, the common buzzard, falco buto, greater buzzard, falco gallinarius, American buzzard, falco borealis, honey buzzard, falco apivorus, Java buzzard, falco jucundus, &c.

BUZZARD, American, of Latham, red-tailed falcon of Arctic Zoology, is the Falco borealis; the cere and legs are pale yellow; the body is brown above and white below; the tail is of a pale rufous colour, having a transverse dusky or black narrow bar near the end. It inhabits North America, particularly Carolina. Its size is about that of the common buzzard.

BUZZARD, Honey. See Apivorus.

BUZZARD, Moir, falco arenarius, the milky arenarius of Aldrovand and Ray; and the byzard of Buffon, has the cere greenish, the body brownish-grey, the crown of the head, chin, axilla, arm-pits, or space below the root of the wings, and legs, yellow. It inhabits Europe, building its nest in marshy places, and subduing on aquatic birds, fish, and rabbits.

BUZZARD'S BAY, in Geography, a bay of America, in the state of Massachusetts, lying between 41° 25' and 41° 43'. N. lat. and between 70° 38' and 71° 10' W. long. This and Barnstable bay on the north eall form the peninsula, whose extremity is called Cape Cod. It runs into the land about 30 miles N.E. by N. and its mean breadth is about 7 miles.

BUZZARDET, in Ornithology, the whitish falcon, Falco albidus.

BYAREM, in Geography, a town of Hindostan, in the country of the Nizam, 85 miles N.E. of Hydrabad, and 60 E. of Warangole.

BYBASSUS, in Ancient Geography, a maritime town of Asia Minor, in Caria, probably situated in the country called by Pliny Abydus.

BYBE, a country of Thrace.—Alfo, a town of Italy, on the confines of Pennectic. Steph. Byz.

BYBERRY, in Geography, a township of America, in the county of Philadelphia, and state of Pennsylvania.

BYBLIS, in Ancient Geography, a mountain of Asia Minor, before the town of Miletus.

BYBLOS, or Byblus, a maritime town of Phoenicia, situate between Beirut and Botrys, 18 miles S. from Tripoli according to the Itinerary of Antonine. The ancient inhabitants of this town served in all the maritime expeditions of Tyre, and as they excelled in all arts relating to wood, they were employed in building Solomon's temple at Jerusalem, 1 Kings chap. v. At this time they were subject to the Tyrians; but when Phcenicia was reduced under the dominion of the Persians, they had their own kings. According to Arrian (de Exped. Alex.) their ships formed a part of the fleet of Darius: but when Alexander had entered Phcenicia and made himself master of Byblos, they deserted Darius and united their naval force with that of Alexander. Under the succesors of Alexander, Byblos sometimes belonged to Egypt and sometimes to Syria. Strabo informs us (l. 16. vol. ii. p. 755), that Pompey reduced them from the oppressive tyranny of one of their overlords by cutting off his head. From him we learn, that it was feated on an eminence at a small distance from the sea, and that it was the royal residency of Cinyras, and that it was the seat of the famous superflition practised in its temples in memory of Adonis. See Adonis. The river Adonis flowed from the adjacent mountains, and passing by Byblos, discharged itself into the sea about two leagues S. of the town. This river, called Ibrahim and Ibrahim Bâha, has only the bridge to be seen, that of Tripoli excepted, from thence to Antioch. It confines of a single arch, 50 feet wide and upwards of 50 high, of a very light architecture, and appears to have been a work of the Arabs. Byblos is now known by the name of Djebail or Gibyle, and is the most considerable town in that district of the pachalid of Tripoli, denominated Kefroman, and extending from Nahr-el-kelb, by Lebanon, as far as Tripoli. It has not, however, above 6000 inhabitants. Its ancient port reembles that of Latakia or Laudicea, but is in a worse state; scarcely any traces of it remaining. Volney's Travels in Egypt and Syria, vol. ii. p. 176.

Byblos, a fortified place of Egypt, seated on the Nile. Steph. Byz.

BYCE, Buges, or Sacra Palus, in Geography, a lake of Cherthonius Taurica, in European Sarmatia, to the west of the Palus Alcstis, from which it is separated by an illmuse. It is mentioned by Ptolemy, Pliny, and Strabo, who alludes to it a circuit of 4000 fidaa.

BYDEAS-KIRCHE, a town of Sweden, in Uppland, near Umea.

BYEFIELD, a parish of Newbury, in Essex county, and

flate
of Maine-shutesett's. North America, having a quarry of lime-bone, in which is found abalone, and, in its vicinity, beautifully variegated marble. A flourishing woollen manufactory is also established in this place, together with machinery for cutting nails.

BYGLAND, a lake of Norway, in the diocese of Christianfand, and district of Raabyg, basen, formed by the river Otsera, on the west side of Byggeland, and precipitating itself at the water-fall of Tenne, in the parish of Ege.

BYHORS, an island of the East Indies, lying well of Boneco.

BYK, a river of European Turkey, which runs into the Dnieper, 6 miles N. W. of Bender.

BYLAWS; those private ordinances of subordinate communities by which their affairs are governed and regulated; the rights of the individuals composing them defined; and wrongs relative to their joint concerns, prohibited and punished.

The word is formed from the Saxon by, habitation, will, and laec, q. d. lex, villa, or town-law. They are also called burh-laws, bylaws, and burk laws, bilager, or bellegines. Such is the custom in Kent of deciding controversies among neighbours about boundaries, by the senechals, or bailiffs.

In Scotland, those are called laws of burk, or bylawn, which are made and determined by neighbours, elected by common consent in burk-courts, wherein cognizance is taken of complaints between neighbour and neighbour. The men thus chosen as judges or arbitrators are called burlaw-men, or bylawn-men.

Every body of men united by common interests, and having affairs of common concern, must necessarily have some general rules for the regulation of their conduct with respect to them. Without these nothing like unity or concurrence of action could possibly exist, whatever were the objects of the association. These regulations may be divided into two classes, with regard to the nature of the body to which they relate. Societies which are formed merely by the voluntary association of their members must have their rules or by-laws, as well as those communities which have a known description, and are recognized as forming part of the general constitution of the country; the former, however, receive no aid from the general law of the land in the enforcement of obedience to their rules, and have no ultimate remedy for their infraction but the expulsion of the disobedient member; whereas, the general law will enforce obedience to the by-laws of the latter, when in themselves legal and reasonable, and duly made on a subject within the jurisdiction of the legislating body. Thus, the inhabitants of a parish or town not incorporated may make a by-law for the repair of the church or of a highway, or concerning any thing within their district of which the public weal requires the regulation, and in such case the majority shall bind the whole. 5 Co. 63, a. 3 Salk. 76. The refiants in a leet, or the tenants of a manor, may make a by-law relative to any thing which concerns the common interest; as, in the latter case, to regulate the exercise of their rights of common. Mo. 779, 584. 1 Rob. Abr. 366. 2 Rob. 212.

From what has been already said, it will naturally be inferred, that this power, which is, under some circumstances, conceded even to such bodies as are not incorporated, null, a forini, belonging to such as are; the very existence of whole rights depends on that of the body itself, and does not arise, as in the former case, from those of the members considered as individuals. This right of legislation belongs originally, unless it be otherwise specified in the charter of incorporation, to the body at large; but they may afterwards delegate it to a feudal body, who then become the representatives of the whole; and may exercise this authority as extensively as the community itself might have done. Rex v. Spencer, Burr. 3 Salk. 1837. In many instances, however, this power of making by-laws has been originally vested in a feudal body by the same charter by which the corporation itself was created, and in this case, it seems that the body at large does not possess it. Rex v. Head, Burr. 2531. The king may, if he pleases, at the time of creating a new corporation aggregate, enact a code of by-laws by which it shall be governed; as may also the founder of an ecclesiastical corporation, each having a right to regulate on what terms alone the creature of his bounty shall be endowed with existence; but neither the one nor the other can afterwards, without express reservation of such right or the consent of the body, change or alter such code; nor will such by-laws, as to their general legality or operation, have any other force or effect than they would have had if enacted by the corporation itself. Skin. 513. Hob. 210.

With regard to the substance of a by-law, it is not only necessary that it should not militate against the express provisions of the law of the realm; but it must also be reasonable and consistent with its general principles, which reasonableness and legality are to be determined by the judges of the superior courts, whenever its validity shall come in question before them. To state the various possible cases in which a by-law would be void, would be therefore to enumerate all those provisions, and the principles and maxims on which they are founded. We shall, however, mention a few of the most general cases in which ordinances of this kind have been held to be invalid. A by-law cannot direct the forfeiture of goods, 8 Co. 125, a.; or the levying of money on any subject, except in those cases in which a burthen is to be borne by a particular society of which he is a member; as in that already mentioned, of afflicting parishioners or townsmen, for the repair of a church or highway. Jeffrey's Case, 5 Co. 66, a. Nor can it operate ex post facto. 1 Keb. 738. Or alter a constitution given by the crown. Rex v. Breton & an. Burr. 2260. It must not operate in restraint of trade. Harrison v. Godman, Burr. 22. Hesketh v. Braddock, Burr. 1847. 1 Roll. Abr. 363.; though it may regulate it and prohibit fraud. 5 Co. 51, b. Nor can it direct a penalty to be fixed for in a court in which the jurors must necessarily be interested as members of the corporation. Burr. 1855.

As to the power of a by-law to bind those who are not members of the legislating body, there seems to be a distinction between those corporations which are invested with a local jurisdiction, and those which, being established for purposes with which locality has no connection, have only a jurisdiction over their own internal concerns. When the corporate body has a jurisdiction over a certain territory, a by-law made by them for the public good, and whose object is general, without being limited to people of any particular description, binds every body coming within the limits of the jurisdiction, whether strangers or members of the corporate body; for every man, says Holt, who comes within the local jurisdiction of a corporation must take notice of their by-laws at his peril. Skin. 35.

This right of making by-laws for their own government, not contrary to the law of the land, was allowed by the law of the twelve tables at Rome. But no trading company is, with us, allowed to make by-laws, which may affect the king's prerogative, or the common profit of the people, under penalty of 421. unless they be approved by the chancellor, treasurer, and chief justices, or the judges of assize in their circuits; and even though they be so approved, till, if contrary to law, they are void. Stat. 9 Hen. VII. c. 7. 11 Rep. 54.

BYLAZORA, in Ancient Geography, a town of Europe.
in Peonia, advantageously situated on the confines of Macedonia and Dardania. It was taken by Philip, and is mentioned by Livy, Polybius.

BYLOT's bay, in Geography. See Raffin's bay.

BYLIE. In Ancient Geography, a Syrthian nation bordering on the west of Imus, according to Ptolemy, and corresponding to BARTISTAN or Little Thibet, which see.


BYNG, George, in Biography, lord viscount Torrington, an eminent naval officer, descended from an ancient family in Kent, was born in 1666. At the age of 15 he entered into the sea-service; but quitted it in three years, for the purpose of serving under general Kirk, governor of Tangier, who advanced him from the station of a cadet, first to that of an ensign, and then to a lieutenancy. In 1684, he returned to the naval department; and in the following year, he was in great danger of losing his life by engaging and boarding a Zinganian pirate; which sunk with him, so that he was taken out of the sea in a wounded state, and almost expiring. In 1688, being on board the fleet that opposed the landing of the prince of Orange, he was confidentially employed in negociating its surrender to the prince's party. Soon after he was raised to the post of captain, and served under admirals Rooke and Ruffell in the Channel and Mediterranean. In 1700, he had the command of a third rate at the taking and burning of the French fleet at Vigo; and in the following year he was made a rear-admiral, and served with Sir Cloudesley Shovel in the Mediterranean, by whom he was deputed to negociate a peace with the Algerns. In 1704, he commanded the squadron that attacked and massacred the garrison of Gibraltar, and induced a capitulation; and he so much distinguished himself in the battle of Malaga, that, as a recompense of his services, he was knighted by queen Anne. In 1705, he was dispatched with a squadron of 20 ships of war for the relief of Barcelona, and he performed various important services on the coasts of Spain and Portugal during that and the following year. On his return home he was signalised from shipwreck, when Sir Cloudesley Shovel, under whom he served, was lost on the rocks, called the "Bishop and his Clerks." In 1708, he was advanced to the rank of admiral of the blue, and commanded a squadron that was employed to prevent an invasion of Scotland by the pretend.r, by means of a French army from Dunkirk. He pursued the French fleet to the Scotts coast, and obliged it to return without landing its troops. Soon after his arrival in London, he was appointed to the command of a fleet destined for a defeat on the coast of France, and in the same year he had the honour of conducting the queen of Portugal to Lisbon, where he received a commission appointing him admiral of the white, and a very valuable present from her majesty of her picture set in diamonds. In 1709, he commanded a squadron in the Mediterranean; and on his return he was made a lord of the admiralty. But disapproving the measures of administration towards the cfole of the queen's reign, he was removed. However, on the accession of George I. he was reinstated in his office, and created a baronet. In 1717, when an invasion of Great Britain was projected by Charles XII. of Sweden, Sir George was sent to the Baltic with a fleet, which joined in concert with the Danes, and remained there till the Swedes had abandoned their design. In the following year the Spaniards landed an army in Sicily, and Sir George Byng was deputed with a fleet to counteract their operations. This was conducted in a manner that redounded very highly to his reputation and to the honour of the British flag. Upon his arrival in the bay of Naples, he found that the Spaniards had made themselves masters of the town of Messina, and were engaged in the siege of the citadel. The English were obliged, by their treaties with the emperor, to defend the Sicilians; but as England and Spain were not at war, the admiral attempted to negociate with the Spanish commander a cession of fortifications; his efforts, however, were ineffectual, and he proceeded, according to his instructions, to make use of force. Having deferred the Spanish fleet, consisting of 27 sail of ships of the line and frigates, he commenced the attack; and in the running fight which ensued, took seven Spanish ships. The admiral's being one of them, and several more were afterwards captured and destroyed by a detachment under captain Walton, who, in the licentious style of an officer, who valued himself more in performing than in describing a gallant action, informs the admiral, "We have taken and destroyed all the Spanish ships and vessels which were upon the coast, the number as by margin." The damage sustained by the English fleet, which, indeed, was of somewhat superior force, was very considerable. The Spaniards complained of being taken by surprize, and when they had no apprehension of hostilities. The conduct of Sir George Byng, however, who executed the orders with which he had been entrusted, was not censurable; and the action was very important to the flate of political affairs at the period in which it occurred. The admiral remained in the Mediterranean, affrighting the German troops to recover Sicily, and preventing the escape of the Spanish troops, till all affairs were settled, and the court of Spain had acceded to the quadruple alliance. The talents displayed by the admiral on this occasion, both as a negociator and as a commander, were such as to inure the confidence of all parties. Upon his return, his services were rewarded with the office of treasurer of the navy, and the rank of rear-admiral of Great Britain; and in 1731, he was raised to an English peerage by the title of viscount Torrington and baron Byng of Southill, Bedfordshire. He was also created a knight of the bath in 1723. On the accession of George II. he was placed at the head of the admiralty, in which station he died of an illness, in January, 1735, in the 70th year of his age. He had several children, one of whom was the unfortunate admiral John Byng, executed upon a rigorous sentence, for defect of duty, in 1757. Biog. Brit.

BYNNI, in Ethnology, a species of Cyprinus, distinguished by having thirteen rays in the dorsal fin, the third of which is thick and horny: tail linear, bifid; beams or cirri, four, Forks. A fish of a silvery colour, and oblong oval form, that is very common in the Nile. The length is about one eighth; the flesh excellent.

BYRAM. See Baram.

BYRAN, in Geography, a river of North America, forming part of the western boundary of Connecticut, and falling into Long island found, opposite to Captain's Islands.

BYRAN, a town in America, in Charles county, Maryland, about 9 miles E. from Hert Tobacco, and 24 S. E. from the Federal city.

BYRD FORT, lies on the eastern bank of the Monongahela river, on the south side of the mouth of Red-Bone Creek; 35 miles S. from Pittsburg, and about 59 N. W. from tributary Falls. Near this spot stands the central part of the town of Brownsville. N. lat. 40° 56'. W. long. 81° 12'.

BYROM, John, in Biography, a poetical writer, and inventor of a new short hand, was born at Kesal near Manchester, in 1601; and having finished his course of grammar learning at Merchant Taylor's school in London, was admitted a pensioner of Trinity college in the university of Cambridge, in 1578. To logic and philosophy he directed only that degree of attention which was necessary to qualify him.
him for his degrees; but his predominant inclination was to
poetry; and of his talents in this way, the first public spec-
cimen appeared in his beautiful pastoral, "Colm to Phobe,"
printed in the 8th volume of the Spectator, No. 763; the
two letters on dreams in the same volume, 585 and 592, are
also ascribed to him. Mr. Byrom, having taken both his
degrees in arts, was chosen fellow of his college in 1714, and
by the sweetness of his temper and the sobriety of his
manners, recommended himself to the particular notice of Dr.
Bentley, the master. His fellowship however terminated in
1716, on account of his not having entered into holy orders;
and leaving college, he went abroad and resided for some
time at Montpellier for the recovery of his health. In
France he became acquainted with Father Malebranche's
Search after Truth, and some pieces of Mad. Antoinette
Bourignon; and he returned home prepossessed in favour of the
vivious philosophy of the former, and the enthusiastic
extravagance of the latter: indeed, towards the close of his life
he feems, by some of his poems, to have been attached to the
mythicism of Jacob Boehmen. Whilst he was deliberating
what course of life to pursue, his mind became more unset-
tled in consequence of his passion for an amiable coufa, who
encouraged his addresses, and whom at length he married
against the consent of his parents. This connection involved
him in difficulties; and as he obtained no assistance from her
father, who was in affluent circumstances, he was reduced to
the necessitv of seeking support by teaching short hand, ac-
cording to a new method which he had invented at Cam-
bridge. He began at Manchester, and leaving his wife with
her relations at that place, he removed to London, where he
professed his instructions in that art, deriving from them for
several years a competent subsistence. In this art he was a
competitor with Welfton, who challenged him to a trial of
skill. In this contest he gained a decisive victory; and in
consequence of it, he was encouraged by a great number of
pupils, several of whom were persons of rank and quality;
and he occasionally read a lecture upon the history and
utility of short hand, which, being interspersed with various
strokes of wit that were natural to him, was very entertain-
ing. His winter months were devoted to this employment
in London, and he spent the summer season with his family
at Manchester. In March 1724, he was chosen a fellow of the
Royal Society. At length the family estate at Kerfual
developed upon him by the death of his elder brother, with-
out issue. By this accession of fortune he was enabled to
enjoy, without these interruptions which his former employ-
ment had occasioned, the conjugal felicity to which his own
dispofition was adapted, and to which the faithful and af-
fecitonate attachment of his wife very eminently contributed.
During the latter part of his life, he almost wholly devoted
himself to the composition of various pieces in verse, some of
which are witty and humorous; and others, the most nolent,
are on serious subjects. He was so accustomed to the
language of poetry, that his diffulations on learned and
critical questions were written in verse. These were collect-
ed in September, 1773, and printed at Manchester in two
volumes, 1110 mo. Mr. Byrom cloded an innocent and in-
offensive life with renagnion and cheerfulness at Manchester
in September, 1763, in the 72d year of his age. Some time
before his death, he is said to have committed several of his
lighter pieces to the flames; and therefe were of such a na-
ture that they deferve the character expressed in a dialect of Ovid,
adopted as the motto of Mr. Walker's works:
"Non ego versi diilinxi carmine quemquam;
Nulla venenato cell: litter mixt: joco." 

By the great truths of Chriftianity his mind had been so
much impressed in his early years, that he derived his chief
pleasure from employing his pen on religious subjects. Mr.
Pegge,(Arched, vol. x. p. 127. 128) has thus delineated his char-
acters: "Mr. late worthy friend, Mr. Byrom, whose memory I
shall always venerate, was undoubtedly a man of parts and learn-
ing, but rather too fond of some of paradox. Among his other
qualifications, he had a particular knack at verification,
and has accordingly delivered his sentiments on this subject
(viz. the History of St. George) as well as on all others, in a
metrical garb; for, I presume, we cannot truly call it a po-
tical one."--Bp. Bnt.

BYRON'S boy, in Geography, lies on the north-east coast of
Labrador.

Byron's island, a low flat island in the Pacific ocean, about
22 miles in length. S. lat. 1° 18'. E. long. 174°.

Byron's Strait, a narrow ica which separates New Ireland
from New Hanover.

BYRINUS, in Entomology, a genus of colloquial insects
having the antennae elevated and the club perforated;
palpi, or feelers, equal and somewhat elevated; and both the
jaw and lip bifid.

The species of this genus are gigan. pilula, eter, dorfa.is, varius, teres, nitidus, lactatus, and viridescens.

BYSSUS, in Geography, a town in Bohemia in the
circle of Baldlaw, 6 miles E. of Melnik.

BYSSUS, in Botany, Cereus; Gr. paid by Julius Pollux
a species of fuch, brought from India into Egypt: but
Pausanias and Philostratus describe it as the produce of a
tree, suppos'd by Dillenius to be the now well known woolly
infestation in which the seeds of gypiolium, or the cotton
tree, are enveloped. Dillenius seems to be the first among
the moderns who revived the name and applied it to a tribe of
plants till then either neglected or confounded with the
fungi and lichens. It appeared in his edition of Ray's
Synopsis, 1724, and afterwards more fully in his Hiftoria
Mufcorum, 1722; but had in the mean time been adopted
by Micheli in his Nova Genera, 1729.) Linn. gen. 1280.
down. Fructification unknown." The genus as it was formed
by Dillenius included species, some of which have the
appearance of very minute dull, others of fine wool; it is
accurately divided by Linnæus into two distinct sections.
Haller was of opinion that the powdery Byss is properly
lichens; Dr. Withering, in the third edition of his Botani-
cal Arrangements, has actually placed them in that genus;
and Dr. Smith was once inclined to entertain the same idea,
(See English Botany, p. 192.) but on further consideration
he has adopted Achard's new genus lepraria for all the
species that have no shells, and appear to be pre-
parated by their powdery part. (See Eng. Bot. p. 124.)
Supported by such respectable authority we have made the ne-
cessary alteration in the generic character, and shall insert in
the present article only such as consist of real filaments.


"Hair-like, very foft, parallel, very easily broken, pale."

Flaky Snow Byssus; Dil. Muc. tab. 1. fig. 9. It consists
of unbranched threads so tender and light that the breath
will disperse it, and when handled seems to dissolve into water
from the moisture attached to it. Found in damp caves and
vaults, most luxuriantly on bins or wooden flares where
wine has been spilt, hanging down in form of a jelly bag, to
the length of a foot or more. Withering. 2. B. flos aquae,
Naturalists are divided in opinion concerning this subfiance.
Linnæus seems to have founded his specific character on the
observations of Bergius. Dillenius, by whom it was first
mentioned in a botanical point of view, in his edition of Ray's
Synopsis, compares it to powder, and says, that in spring it
covers flagrant waters with a very thin and even crust, not
like
like a conerva, consisting of threads, nor of any perceptible downy matter, but merely of a thin green lamina. Linnaeus, in his Flora Lapponica, published thirteen years afterwards, notices a green tannaceous Byllus intermingled with water, which Dilenum, ibid. filhus Meltemorum, quotes as a synonym of the green paper Byllus, observing that this plant also at first could not powderly matter, which afterwards unites itself into a membranaceous fulness, and when dry becomes white; it is the aquatic membranaceous Byllus of the Flora Lapponica, which Linnaeus himself in the Species Plantarum makes a variety of B. ros aq. Weir, in his Cryptogamia, affirms that it is not a real plant, but only unorganized vegetable matter, produced by the dislocation of putrid plants. Dr. Withering, on the other hand, believed that it will prove a conerva; for offering a pond in the plane of flowering, as the country people term it, he examined some of the water, but the particles floating in it were so minute, that even with the assistance of a very good microscope he could not satisfy himself as to their figure or structure. Two or three weeks later in the spring, he found threads not jointed nor branched, either straight or coiled up like a cork-treew. Some of this water kept in a glass jar, after two or three weeks more, let its coat its fulness, and then it began to appear like a conerva. The threads soon became much larger and assumed a jointed appearance. La Mare describes it from actual observation as consisting of short, feathered, extremely fine threads, forming a soft green crust on the surface of the water. 5. B. candida Liu. "Threads exactly and universally latticed." Ledetn. Micro. tab. 72. Found in fresh full waters, swimming like a kind of mucor or mould of a yellowish green colour. 4. B. phal donna Liu. "Downy, of a violet colour, and growing on rotten wood." Dill. tab. 1. fig. 6. Consisting at first of very fine short upright down; afterwards pressed close to the wood, clothasting it like a thin membrane or crust, taking a deeper violet colour. 5. B. velutina Liu. "Filamentous; green: filaments branched." Dill. tab. 1. fig. 14. Found on trees, rocks, and the surface of the ground in shady places, which it covers with a very fine short silky down, like velvet, of a beautiful green colour. 6. B. aurora Liu. "Filaments simple or branched, closely matted together, powderly, orange-coloured." Dr. Smith, Dill. tab. 1. fig. 16. Eng. Bot. 212. Fibres very fine, thick-set, erect. Found on calcareous rocks and banks, particularly in Derbyshire, and sometimes on damp lime-limeon buildings. It often uniformly covers a space of many inches in diameter, and looks like a fine piece of orange-coloured cloth or velvet, but the surface is sometimes more tumbled and broken, and it frequently grows in a branching manner, feathered over mofles. It lifts its beautiful golden colour in five or six weeks after it is gathered, and then becomes of a permanent greenish grey. Dr. Smith. 7. B. nigra Hud. "Filaments branched, matted, powderly black." Dr. Smith, Dill. tab. 1. fig. 78. Eng. Bot. 201. Said to be Dillenius, Dr. Rees says it from the well riding of Yorksire. It has been often found on shady overhanging rocks in the alpine parts of England, Scotland, and Wales. It forms patches of various sizes, perfectly black, and may easily be scraped from the stone. When gathered, it strongly resembles a piece of felt scraped from a hat, both in texture and colour. It consists of a mat of fine felt, but definite, branched filaments, often covered with an equally black, soft powder, which is probably the food, though it has not been observed to be produced at any particular season exclusively. Dr. Smith. B. purpurea. Low: inoff. (Rubia Puros. 2d. ed.) "Filaments erect, simple, or branched, p. refl. 94." Dr. Smith, Eng. Bot. 194. Filaments usually longer than the breadth of a hair, thick-set, in broad uniform patches. When much moistened these filaments become clotted together in clusters, and in that moist state exhale a kind of sweet scent, agreeing in this respect with the Byllus Iolitius of Linnaeus, which is however really a crucifolious lichen. Dr. Smith. Found by the Rev. Hugh Davies on the micaceous rocks of Anglesea, and by Mr. Lightfoot on the base of Abbot Mackimmon's tomb in Y comb-kill. 9. B. lucista Hudson. "Filaments branched, tawny." Dill. tab. 1. fig. 17. Filaments longer, more rigid and more loosely disposed than those of B. aurora. It retains its colour when dry. On putrid wood. 10. B. barbata Hud. (B. auristinae La Marech, jucuta Wurb.) Filaments upright, branched, bundled, with annual interruptions, tawny, with smooth, swelled, deeper-coloured tips." Dr. Smith. Dill. tab. 1. fig. 10. With. Bot. Ar. tab. 18. fig. 5. Ber. Bot. 701. It forms perennial, thick, tawny-coloured tusfs, from one to two inches high. The growth of each year is marked by a swelling and a darker colour in each principal filament or ftm. Young plants consist of a simple filament, regular and beautifully feathered at the summit. In fine specimens found by the right honourable Lady Elizabeth Noel to Dr. Withering, and Dr. Smith, the fowled tips were remarkably conspicuous, and, as her ladyship with great probability supposed, continued the fertilisation. These tips are smooth, transparent, and of a rich taw dry colour. In Dr. Withering's specimens, when examined in the microscope, they were observed to be filled with granules, and to be besipid with bristle-flapped tubes, pointing upwards. In Dr. Smith's specimens, which he conjectures were in a less advanced state, they had not the same appearance. On moist rotten wood. 11. B. candida Hud. "Filaments much branched: branches fuscilicated, white." Dill. in Ray's Syn. tab. 23: as it grew on an old stick in a cellar. Dill. Hill. tab. 1. A. on an oak leaf; B. on the half rotten foil of an old shoe. From a broadleaf, mucilaginous, villous base, spiring many slender branches, spreading more in breadth than in height, elegantly divided and subdivided, and ending sometimes in numerous capillary fibres, but generally in surfaces a little expanded without any determinate number or figure. Sublimate pure white, tawny, prefaced close to the sublimate on which it grows. Dill. 12. B. cryptarum Liu. "Capillary, perennial, aff- coloured, adhering strongly to the rock on which it grows." Dill. 1. 20. Filaments very tender, fott, greenish aff-coloured, an inch long, loosely disposed, so firmly attached as to be scarcely pulled off by the fingers. Liu. Filaments simple, dull white, brittle, diverging in a crowded manner from a centre, an inch and half long, and the thickness of a human hair. Dill.

BYSSUS, or Byssus, a fine sort of thready matter produced in India, Egypt, and about Ellis in Achaina, of which the richest apparel was anciently made, especially that which were by the Phis and both Jewish and Egyptian.

In reality, the ancients seem to have applied the name indiscriminately to any kind of matter that was spun and woven finer than wool: so that it is probable there were divers sorts of byssus. It is certain, that Aristotle gave the name byssus to the hair or tined threads of the pinna marina; whether it were on account of its resemblance to the byssus of which cloths were made, or whether it were that this was the true byssus itself. What countenances this latter opinion is, that the byssus of the pinna marina may be spun, and consequently there is little doubt but that in ages when silk was scarce, it might be used in the cloths of great men. Add, that this byssus, though grossly spun, appears much finer and more beautiful than wool, and comes not much short of silk. Stockings and other such manufactures are still made of it, which would be more valuable if silk were les
To spin this byssus, they leave it some days in a cellar to moil, and grow fast: after this they comb it to get out the impurities, and, Lastly, spin it as they do flax. Gouger, Hist. Anim. 1. 4. e. 6. Acad. des Sc. Ann. 1712, M. p. 224: others think that the byssus signifies a kind of very fine flax, which grew in Egypt or Judæa. Bochart, Phæleg. l. iii. c. 4. Others again are of opinion that it is cotton, or a mixture of linen and cotton. The probability of its being cotton is strengthened by the description given of the byssus by Polyaenus, which cannot be applied to any thing but cotton. This writer says (l. vii. c. 17), that this material came from a kind of nut which grew in Egypt, and also in India; that they opened the nut, extracted this substance, spun it, and wove it for garments. Philostratus (de Vit. Apollon. l. ii. c. 10) describes it much in the same manner. These characteristics agree very well with cotton. Arrian, Turtullian, and Mela, concur in representing the garments worn by the Indians as confitting of flax or wool, which was produced by the trees.

It is found in a kind of brown nut, which grows on a small shrub. Besides it seems evident from the analogy of languages, that the word used by Moses in describing Joseph's garment (Gen. xlii. 42.) meant wool. This is the opinion of some of the most learned interpreters and commentators. We learn farther from profane authors, that robes of cotton were very ancient in Egypt, and that they were worn only by persons of the gentile distinction. Phil. H. N. 1. xix. § 2. It is no less certain that robes of linen were also used in very ancient times; and it appears from the testimonies of Moses, that flax was cultivated in Egypt from time immemorial. Exod. ix. 31. D.ut. xxi. 11. Hence some have supposed that the ancient byssus was either a very fine sort of cotton, or a mixture of linen and cotton. Forcher "de Byssus Antiquorum," Lond. 1776, 8vo. This ingenious writer, in an elaborate dissertation on the subject, cites a variety of passages from ancient authors, from which he concludes that the byssus was a kind of flax, if it may be so called, which was obtained from plants and trees in India, Arabia, and Egypt, denominated by the barbarians "Golphiion," and corresponding to the modern cotton. He adds, that the ancients were acquainted with two species of cotton trees, the "Bombax" and "Goffyphium," both belonging to the Linneas class of monadelphia polyandra. The byssus of which Pliny speaks (l. xix. c. 11) and which he extols for its softness and whiteness, was the goffyphium, or white cotton; and that of which Philostratus speaks (ubi fapia), the colour of which was red, χαλκιον, was obtained from "Bombax." Obrecht, in his "Travels" (vol. i. p. 583) informs us, that the real flax was unknown in India and in Egypt, and yet in both these countries the same vegetables were cultivated and the same arts practiced. We often read, however, of flax (linum) in works pertaining to the Egyptians, as composing the textures of the priests and others, particularly when they celebrated the mysteries of Isis. What this substance was is explained by Pliny, when he says that garments of cotton were much valued by the Egyptian priests, "Velles inedé (Xyline) facerodthosus gratilissimé." The "velles xyline" were synonymous with the "velles byssine." Moreover, Plutarch (in Tivde and Herodetus, l. ii. c. 86) informs us, that the religion of the Egyptians enjoined their wrapping up dead bodies in flax woven with byssus. That this byssus was our cotton is evident from the authorities to which Mr. R. Foster refers; and it may be also inferred from the fillets which were bound round their mummies. Authors usually differ as to two sorts of byssus, that of Eliss, and that of Judea, which was the finest. Of this latter were the priestly ornaments made. Bon"
round form from their diversificated, little branches, hairy. Callycanthus is the name given to a genus of flowering plants. The flowers are small, white, and arranged in clusters. The leaves are entire.

In ancient times, the sea-coast of Thrace was inhabited by the Thracians. They were known for their seafaring culture and were skilled in maritime activities. The region was a hub for trade and commerce, connecting various parts of the known world at the time.

The sea-coast of Thrace was also known for its rich marine resources. Fish such as salmon, mackerel, and cod were abundant, providing a significant source of food for the local population. The coastal areas were utilized for fishing, and the waters were rich in nutrients, supporting a diverse marine ecosystem.

In conclusion, the ancient sea-coast of Thrace was a vital part of the Mediterranean world, with a rich cultural heritage and a diverse ecosystem that supported a thriving community. The region played a crucial role in the development of maritime trade and commerce, leaving a lasting legacy that continues to be explored and appreciated today.
large sums to the revenues of the city, which was crowded also with merchants, and supported by an active and flourishing commerce. Its port, sheltered on every side from tempests, attracted thither the vessels of all the Grecian nations; and its situation at the head of the Strait enabled it to float, or subject to heavy duties, the foreign merchants who traded in the Euxine, and to furnish the nations who drew from its benediction. Hence arose the constant endeavours of the Athenians and Lacedaemonians to engage this city in their interests.

Byzantium was founded, according to Eusebius (in Chron.) about the third year of the 5th Olympiad, while Tullus Hollius reigned at Rome. But Diiodorus Siculus (I. v.) affirms, that the foundations of this city were laid in the time of the Argonauts, about 1263 years before Christ, by one Byzas, who later reigned in the neighbouring country, and from whose name the city was called Byzantium.

This Byzas, if we may credit Euthalius (in Dionyf. v. 834.) arrived in Thrace a little before the Argonauts came into those seas, and settled there with a colony of Megarensians. Others say, that the navigator Byzas, who was famed for the son of Neptune, founded the city 656 years before the Christian era; and that his followers were drawn from Argos and Megara. See Scaliger Animad. ad Euseb. p. 81. Du-Cange Conflantinopolis, i. p. i. cap. 13, 16. Some ancient medals of Byzantium, which have reached our times, bear the name and head of Byzas, with the prow of a ship on the reverse, probably of that ship which brought him into Thrace.

Velleius Paterculus (I. b. c. 15.) alights the glory of founding this great metropolis to the Miletians and Ammians Marcellinus (I. xxi. 8.) to the inhabitants of Attica. Justin (I. xix. c. i.) says, that it was built by Panthias, king of Lacedaemon; but in this he must have been mistaken, since it is certain, that Panthias, the commander of the Lacedaemonian fleet, took it (about the year B. C. 476) from the Persians, who had made themselves masters of it before the king of Lacedaemon had ever been in Asia. (Thucyd. l. iii. Herodot. l. ix.) Panthias might probably have rebuilt and fortified it, whilst he continued in possession of it, and carried on a secret conspiracy with the Persians. It underwent many revolutions, having been sometimes subject to the Persians, sometimes to the Lacedaemonians, and also to the Athenians, who took possession of it about the year B. C. 407. About the year 340 B. C. Philip of Macedon laid siege to this city; but was compelled to raise it, and to retreat, by Phocion, the Athenian general. Its situation was justly considered by the ancients as the most pleasant, and also the most convenient, for trade, of any in the world; and it is therefore no wonder, that the possession of it should be an object of various and successive contes. After many vicissitudes, Vepfianus, A. D. 71, reduced Greece, which Nero had declared free, and likewise Lycia, Rhodes, Byzantium, Samos, Thrace, and Cilicia, to Roman provinces, alleging, that they were no longer capable of liberty, since they only made use of it to undo themselves by their interlaced divisions. In the contest between Niger and the emperor Severus, the former placed a numerous garrison in Byzantium, and the latter instead of pursuing his enemy and besieging him in this strong city, detached a large body of troops to Cyzicus, near which a battle ensued between them and the numerous army of Amurathus, which terminated in a defeat of this general, and obliged Niger to quit Byzantium, A. D. 194. Upon this Severus invaded the place abandoned by his enemy, and commenced a siege, which lasted three years. The bloody battle of Illus decided this contest; and the head of Niger was sent by Severus to his army, encamped before Byzantium, and exhibited to the besieged on the point of a spear; and from Byzantium it was sent to Rome, as the token and trophy of Severus's victory. Such were the strength of this city, its advantageous situation for defence, and the obstinacy of the besieged, that it was not subdued without many assaults and many falles, which render the capture of it one of the most extraordinary events in military history. On the side of the sea it was guarded by a harbour into which the current set with such violence, that those who attempted to approach the city in this way were obliged to pass under its walls. Although the walls were not high, the sea itself, and its rocks, were a sufficient barrier. On the land side, care had been taken to fortify it with high and thick walls, built of mason stones, cemented together with cramps of iron; and the whole circuit was flanked with towers built in such manner and at such distances, that they defended one another. Before and during the siege, the Byzantines had provided themselves with various machines of war, some of which hurled large beams and stones upon the besiegers on their approach, and others threw at them showers of darts and smaller stones to a greater distance. Strong iron hooks, fastened to chains were fastened to the walls, and fastened to the walls, and dragged up whatever they laid hold of. These machines were boldly confronted by one Pricus, a Bithynian, and a famous engineer; who, after the surrender of the place, was sentenced to death by the generals of Severus, but obtained his pardon of the emperor, in the prospect of deriving from his talents future services. The entrance of the harbour of Byzantium was barred by a chain, and upon the pier, which advanced on each side into the sea, were built towers for preventing the approach of an enemy. This harbour contained good small vessels, most of which were armed with pointed prows of iron; and some of them had two rudders, one at each end of the ship, and a double complement of men; by which means they could at a moment's warning, and without tacking about, either advance upon the enemy or fall back, as occasion required. Dion Cassius informs us, that the Byzantines successfully practised a stratagem for taking some of the enemy's ships, whilst they lay at anchor at some distance from the shore. They employed divers, who, swimming under water, cut the cable, and drove into the body of the ship a strong nail fastened to a rope, the other end of which was in one of their own vessels. This last, being put in motion, dragged the other after it, and it thus appeared to move without oars or wind. As the beleaguered lost many of their ships, they built others of the timber of their housetops, and the women cut off their hair in order to furnish materials for ropes. When their supply of darts and common stones failed, they made use of the stones of the walls of their theatres, which they demolished; nor did they spare the statues, even of brass, which adorned their city. Such was their direft by famine, that they were reduced to the necessity of soaking flings of leather, in order to derive some nourishment from them, and at length of devouring one another. In that situation of extreme indigence and misery, some of the most robust and vigorous took advantage of a storm to embark on board of their ships and to seek a supply of food for their fellow citizens, or to perish in the attempt. Having overloaded their ships, the Romans attacked them in their return; and either overtook or sunk them all, so that not a single vessel escaped. The Byzantines, thus deprived of their only hope, opened their gates to the besiegers, and surrendered at discretion. The conquerors showed them no mercy; but massacred all the soldiers, magistrates, and commanders; and by order of the emperor, who exulted with his soldiers on the capture of the city, the edicts of its inhabitants were confiscated; the city was deprived of its privileges and even of its title of city,
and was reduced to the condition of a mere village; so that it was subjected together with its territory to the jurisdiction of the Perinthians, who infamously abused their power. Its fortifications were totally dismantled; and thus Severus deprived the empire of one of its strongest bulwarks, which kept all Thrace in awe, and commanded Asea and the Euxine sea. "I saw it," says Dion Cassius, "in such a state of ruin and desolation as would have made any one think it had been conquered, not by Romans, but by barbarians." The emperor, at the request of his infant son, Caracalla, mitigated some part of its punishment, rebuilt a considerable part of it, calling it "Antonia" from the name of Antoninus, assumed by his son; but never restored it to its ancient privileges, nor revered the order by which it was subjected to the Perinthians; for we find by ecclesiastical history, that till the time when Constance rebuilt Byzantium and gave it his name, the bishop of this city acknowledged the bishop of Perinthos, or H. racela, for his metropolitan. In the year 262, the tyrant Gallienus exercised cruel vengeance on Byzantium for reasons which are not particularly specified; but the Byzantines having some ground for mistrusting him, first shut their gates against him; but afterwards admitting him upon his promise of moderation and clemency, he boldly broke his word, and caused both the garrison and inhabitants to be massacred; so that at the time when Trenchtius Pollio wrote, there was not an ancient family in Byzantium, except such whose accidental abode, occasioned either by business or pleasure, or by their being employed in the armies, had preferred some remains. On occasion of the war between Licinius and Maximine, Byzantium was besieged and taken by the latter; but it was soon after recovered by Licinius. But in 324 Licinius was defeated by Constance the Great, first at Adrianople and then at Chalcedon; and the cities of Byzantium and Chalcedon opened their gates to the conqueror. In the year 330, Constance resolved to enlarge the ancient city of Byzantium, and to make it the second, if not the first, city of the Roman empire. Accordingly he began by extending its walls from sea to sea; and while some of the workmen employed in rearing them, others were employed in raising a great number of stately buildings, and, among the rest, a palace equal in magnificence and extent to that of Rome. As he designed to fix his own court there, and was devout that the succeeding emperors should follow his example, and honour his new city with their ordinary residence, he spared neither cost nor labour to render it both beautiful and convenient. With this view, he built a capital and amphitheatres, formed a circus maximus, several forums, porticos, and public baths; and divided the whole city into 14 regions, securing the inhabitants by many wholesome laws, and granting them great privileges and immunities. By these means, Byzantium became, in a short time, one of the most flourishing and populous cities of the empire; while families flocking thither from all parts, especially from Pontus, Thrace, and Asea. Constance published an edict, importing that such as had lands in those countries should not be able to dispose of them, nor even leave them at their deaths to their heirs, unless they had a house in his new city. The common people were enticed thither from the most distant provinces, and even from Rome itself, by the emperor's donations, and the great quantity of corn, oil, and wheat, which was daily distributed among them. But however defirous the emperor was to see his new city filled with people, yet he did not choose it should be inhabited by any but Christians, and therefore he ordered all the idols to be pulled down, and their temples to be consecrated to the true God. He built, besides, an incredible number of churches, and caused crosses to be erected in all the squares and public places. When most of the buildings were finished, the emperor on the 11th of May, in the year 330, the 25th of his reign, caused this city, by a very solemn dedication, to be consecrated, according to Cædernus, to the Virgin Mary; but, according to Eusebius, to the God of Martyrs. It was on this occasion, that Constance styled the new city after his own name, "Constatinopolis," for the city of Constance, and like wife ("Leontia") or as others will have it, "New Rome." At the same time he put it on an equality with ancient Rome, granting it the same rights, immunities, and privileges, that were enjoyed by that metropolis. He established a senate, and other magistrates, with a power and authority equal to that of the Roman senate; and declared "New Rome" the metropolis of the east, as "Old Rome" was of the west. Constance having accomplished this great work, according to some in five, according to others in two years, fixed his residence in the new city, and never more returned to Rome. The removal of the imperial seat from Rome to Constatinopolis happened in the year of the Christian era 330, the 25th of Constance's reign, and 1128 after the foundation of Rome. Anc. Un. Hist. vol. xii. xiv. C. Crevoster's Roman Emperor, vols. viii. ix. x. Gibbon's Roman Emp. vol. iii. p. 1 &c. See Constantinople.

**BYZIA.** Viza, Visé, in Geography, a mean town of Turkey in Europe, in Romania, which was anciently the residence of the kings of Thrace, and which has still a Greek bishop. It is situated in a languishk of the same name, which extends outward from the foot of Mount Hæmus to the sea of Narmara. See Byzia.

**BYZO.** See Bizo.

**BYZONE.** See Bizione.

**BZOVIUS, or BOWERS, ABRAHAM, in Biography, an industrious and voluminous writer, was born in Poland in 1657, and having studied at Cracow, entered into the order of Dominicans. He afterwards read lectures in philosophy at Milan, and in divinity at Bologna. On his return to Poland, he taught and preached with great applause, and became principal of a college belonging to his order; to the advancement of which he very much contributed, by the erecting of churches and convents, by furnishing their libraries, and by reforming their constitutions. On his settlement at Rome, he became librarian to the duke of Bracciano; and having compiled "An Abridgment of Ecclesiastical History," taken chiefly from the annals of Baronius, he was induced to engage in the continuation of that work, and with this view lodgings were affixed to him by the pope in the Vatican. This work commencing in 1193, where Baronius had left off, was continued to his own times, and comprised in 12 volumes, folio, of which 9 have been printed; viz. 8 at Cologne, from 1610 to 1630; and the 9th at Rome in 1672. With a spirit similar to that of his predecessor he arrogates plentiful power to the papal see, and manifests the zeal of a credulous and partial advocate rather than the fidelity of an historian. By his abuse of the emperor Lewis of Bavaria, he excited the indignation and remonstrances of the duke of Bavaria, a descendant of the same house, who obliged him to make a public retraction. He also offended the Franciscans by his reproaches of Scotus, the "sulphur doctor," and by other acts of hostility; and he likewise gave great offence to the Jefuits. His work is, upon the whole, little esteemed. Bzovius wrote 3 volumes of the lives of the popes, and a great number of other works, which are completely sunk into oblivion. Having quitted the Vatican, he retired to the Dominican convent of Minerva, and died there in 1637-
The third letter, or second consonant of the alphabet, has two sounds, one like k, as in the word call; and the other like s, as in Cæsar. It has the former sound before α, ο, and a consonant; and the latter before α, ω, and γ. It might be omitted, says Dr. John fon, in the language without loss, since one of its sounds might be supplied by s, and the other by k; but that it prefers to the eye the etymology of words, as face from factus, captive from captivus. C, having no determinate sound, according to English orthography, never ends a word. C is formed, according to Scaliger, from the χ of the Greeks, by retrenching the I or upright line; though others derive it from the ד of the Hebrews, which has in effect the same form; allowing only for this, that the Hebrews, reading backwards, and the Lattin, &c. forwards, each have turned the letter their own way. However, the C not being the same as to found with the Hebrew קoph; and it being certain the Romans did not borrow their letters immediately from the Hebrews, or other Orientals, but from the Greeks; the derivation from the Greek χ is the more probable. Add, that F. Montfaucon, in his Palæographia, gives us some forms of the Greek χ, which come very near that of our C; this, for instance, C: and Saides calls the C, the Roman kappa. The second sound of C resembles that of the Greek Σ; and many instances occur of ancient interjections, in which Σ has the same form with our C. Gruter, vol. i. p. 71. vol. iii. p. 1020.

All grammarians agree, that the Romans pronounced their Q like our C, and their C like our K. F. Mabillon adds, that Charles the Great was the first who wrote his name with a C; whereas all his predecessors of the same name wrote it with a K: and the same difference is observed in their coins. In Latin MSS. the C is often substituted for Q, as cotâ in cotâtis, &c. and the use of C for K was very common among the Latins. By the negligence of copyists C is often put in the room of P in ancient MSS.; on some ancient medals of Sicily, particularly those of Gela, C occupies the place of Π, as LEÂGÎON for LEÂJÎON; and the Romans for a long time retained it in the room of G.

C was also a numeral letter among the Romans, signifying an hundred: according to the verse, "Non plus quam centum C litera fertur habere." Some add, that a dath over it, made it signify an hundred thousand. CC denoted 200,000, and CCC 300,000, &c.

In the Falli and Calendars C denoted the day on which it was allowed to assemble the Comitia.

C is also an abbreviation.

In proper names, C was used for Caïnus; as Cæsar, &c. Their lawyers used it single for Codicis or Consiliis, and double, CC. for Confiliibus. On some marbles a C reversed, C, denoted Catia.

C was also used in their courts, as a letter of condemnation, and flood for condemno; in opposition to A, which signified absolution. On this account the letter C was called "Littera trillis." Cicero pro Milone, c. 6.

C, in Musica, is the name of the second space in the base, the third space in the treble, and of every line on which the tenor or C clef is placed.

In the Guido scale or gamut, the C in the second space in the base is called C fa-it; its octave above, on the fifth line, C sol-fa-it, as is the C in the third space in the treble, its octave.

C sometimes, in Ital. Musica, stands for canto, as C is canto primo. It stands likewise, when placed at the clef, for common time, and, with a line through it, thus C, for cut time, or a quicker kind of movement.

In music of the 15th and 16th centuries, in specifying the time or moods, as they were then called, when triple time, which then was styled imperfect, and common time imperfect, the laws of prolacion were very complicated and difficult to comprehend. An O, or complete circle, implied perfect time, when, without apoint, a long Q was equal to three breves; a breve to three semi-breves, &c. and a C, or semi-circle, implied imperfect or binary time, which Morley calls "prolation of the left." See Moods, Prolation, and Time-table.

When at the clef a concealed canon, (cavato chiaso), had two different marks for time placed over each other, it implied, that one of the parts sung the notes as they were written, and the other doubled all their lengths, the upper part leads off the canon.

C B, when placed in a score over the viola, or tenor part, implies C Basso, with the base.

The French regard at as the representative of C, the first note of their gamut; but Guido, the Italian, and the English always look upon G on the first line in the base, as the first note in the gamut, or scale of music. See Hexachord, Proposition, and Solmisation.

In Gregorian notes on a stave of three lines only, C implies the tenor or C clef.

C, Album, in Entomology. See C, ALBUM.
C, Aureum. See C, AUREUM.

CA-APIA, in Botany, the Brazilian name for the Dorfema Brasiliensis of La Mareck, first described by Marggrave and Pits, and since found by Commeron, both in Brazil and Magellan.

CAAB, or Cab Ben Zohair, in Biography, an eminent Arabian poet, was at first a Jewish rabbin; and when Mahomet made war on the tribes which had embraced Judaism, wrote some severe satirical verses against him. But, on Mahomet's subsequent success, he was profelyted, and preferred
him with a copy of verses in his praise; upon which he was pardoned and received into favour. The impollor conferred on him the honour of his mantle, which was afterwards purchased at a great price by the caliph Moawia from his heir. Caab is said to have had a large share in the composition of the Koran. He died in the 1st year of the Hegira, A.D. 622. D’Herbelot.

CAABA, a square stone edifice in the temple of Mecca, supposed to have been built by Abraham and his son Ishmael; being the part principally revered by the Mahometans, and to which they always direct themselves in prayer. See Kaaba.

The word is Arabic, "kaaba, and "caaba, a denomination which Some will have given to this building, on account of its height, which surpasses that of the other buildings in Mecca; but others, with more probability, derive the name from the quadrangular form of this structure.

This edifice is indisputably so ancient, that its original use and the name of its builder are lost in a cloud of idle traditions. The Mahometans affirm, that it is almost coeval with the world, and they pretend, that Adam, after his expulsion from paradise, supplicated divine permission to erect a building like what he had seen there, called "Beit al Mamar," or the frequented house, and "Al Darah," towards which he might direct his prayers, and which he might compass as the angels do the celestial one. Upon which God let down a representation of that house in görünt of light, and set in Mecca, perpendicularly under its original, ordering the patriarch to turn towards it when he prayed, and to compass it by way of devotion. After Adam’s death, they say, his son Seth built a house in the same form, of stone and clay, which, being destroyed by the deluge, was rebuilt by Abraham and Ishmael, at the command of God, in the place where the former had stood, and after the same model; directions for this purpose having been given them by revelation. Independently of these fabulous traditions, it is not improbable, that it was erected by some of the patriarchs descended from Ishmael; but whether it was built as a place of divine worship, as a fortress, as a sepulchre, or as a monument of the treaty between the old professors of Arabia and the sons of Kedar, it is impossible to ascertain. Reland supposes that it was the mansion of some ancient patriarch, and on that account revered by his posterity. At length it came to be considered as a building appropriated to the service of the Pagan Arab divinities; but that it was not originally a temple seems to appear from these circumstances; that the door was not placed in the middle of the structure, and that, for many ages, there was no divine worship performed in it, though the Pagan Arabs frequently went in procession round it. It is most probable, however, that the Caaba was primarily designed for religious purposes; and it is certain, that it was held in the highest veneration long before the birth of Mahomet. Having undergone several reparations, it was, a few years after his birth, rebuilt by the tribe of Korei, who had acquired the custody of it either by fraud or force, on the same foundation; afterwards repaired by Abdallah Ebn Zobeir, the caliph of Mecca, and again rebuilt by Yufil, surnamed Al Hejaj, in the 74th year of the Hegira, with some alterations, in the form in which it now remains.

The length of the Caaba, from north to south, is 24 cubits, its breadth, from east to west, 23 cubits, and its height 27 cubits. The door, which is on the east side, is raised about 4 cubits from the ground, and the floor is level with the bottom of the door. In the corner next this door is the "black stone" so celebrated amongst the Mahometans. This stone is set in silver, and fixed in the south-east corner of the building, or that which looks towards Bafra, about 2 cubits and one third, or seven spans, from the ground. The Mollems pretend, that it was one of the precious stones of Paradise, and that it fell down to the earth with Adam, and being taken up again, or otherwise preferred at the deluge, the angel Gabriel afterwards brought it back to Abraham, when he was building the Caaba. It was at first whiter than milk, but became black by the sins of mankind, or rather by the touches and kisses of so many people; the surface only being black, and the interior parts remaining full white. The Hindoos, (see Asiatic Researches, vol. iv. p. 371.) maintain, that this black stone was no other than the "linga," or "phalus" of Maha-deva, an ancient divinity; and that when the Caaba was rebuilt by Mahomet (as they affirm it to have been) it was placed in the wall, out of contempt; but the newly converted pilgrims could not give up the worship of the black-stone; and insignificant portents forced the Muslims of the new religion to connive at it. Indeed, stones were worshipped not only in Arabia, particularly at Mecca, but were distinguished by the appellation of Beatles, (see Brvlos.) in Syria and Greece. It is also affirmed, that the black-stone was the object of an idolatrous worship from the most remote times. However this be, the black stone is held in very high estimation by the Mahometans, and is kissed by the pilgrims with great devotion, being called by some "the right-hand of God on earth." When the Karmatians profaned the temple of Mecca, and took away this stone, neither love nor money would induce them to restore it, though the inhabitants of Mecca offered no less than 5000 pieces of gold for it. However, after having kept it 22 years, and finding that they could not prevail with the pilgrims to abandon Mecca, they sent it back, with some contemptuous expessions, of their own accord. In the temple of Mecca is also the stone in Abraham’s place, on which, they pretend he stood when he built the Caaba, and bearing the traces of his footsteps; this is enclosed in an iron cell, and the Koran enjoins prayers to be offered before it. On the east side of the Caaba is the well Zemzem, which is covered with a small building or cupola, and the water of which bears the reputation of curing many bodily diseases, and even of washing away moral pollution and guilt. This water is much revered, as it is supposed to issue from the spring which supplicated Ishmael when his mother Hagard wandered with him in the desert, and is not only drank by the pilgrims on the spot, but conveyed in bottles to most parts of the Mahometan dominions. There is also a white stone, said to be the sepulchre of Ishmael, which is very ancient, and which was held in considerable repute among the Pagan Arabs. It is situated on the north side of the Caaba, within a semicircular enclosure, 50 cubits long, and receives the rain-water that falls off the Caaba by a spout, formerly of wood, but now of gold. The Caaba has a double roof, supported within by three octagonal pillars of aloes wood, between which are suspended, on a bar of iron, some silver lamps. The outside is covered with rich black damask, adorned with an embroidered band of gold, which is changed every year, and which is provided by the Turkish emperors. At some distance the Caaba is surrounded, but not entirely, by a circular enclosure of pillars joined towards the bottom by a low balustrade, and towards the top by bars of silver. Without this inner enclosure, on the north, south, and west side of the Caaba, are three buildings, which are the oratories, or places where the three of the orthodox sects assembled to perform their devotion; and towards the south-east flank the edifice which covers the well Zemzem, the treasury, and the cupola of Al Abbas. All these buildings are enclosed, at a considerable distance by a magnificent piazza, or square colonnade, resembling the Royal Exchange of London, but much larger, covered with small domes and cupolas, from the four corners of which rise as many minarets or steeples, with double galleries,
galleries, and adorned with gilded spires and crescents, as are the cupolas which cover the piazza and other buildings. Between the pillars of both inclosures hang a great number of lamps, which are constantly lighted at night. The first foundations of this outward inclosure were laid by Omar, the second caliph, who built no more than a low wall, to prevent the court of the Caaba, before open; from being encroached on by private buildings; but the structure has been since raised, by the liberality of many succeeding princes and great men, to its present height. The precipices of Mecca, to the distance of 10 miles from the Caaba, are considered as sacred, so that in thefe it is no lawful to attack an enemy, or even to hunt or fowl, or cut a branch from a tree; and they have long ago enjoyed the rights of sanctuary. The ceremonies prefcribed to the pilgrims on their arrival at Mecca, confift chiefly in procéssions round the Caaba, running between the mounts Safa and Marwâ, making the ilation on mount Arafat, flaying the victims, and flaving their heads in the valley of Minâ.

In compailing the Caaba, which they do seven times, beginning at the corner where the black-stone is fixed, they move in a quicfc pace the three first times of parambulating it, and make a more quicfc progres during the four ilall circuits; in conformity, as they say, to the instructions of Mahomet, who directed his followers thus to show themselves strong and active to cut off the hopes of the infidels, who had given out, that the inmoderate heats of Medina had rendered them weak. As often as they pafs the black-stone, they either kifs it, or touch it with their hand, and kifs that. At the clofe of the ceremonies, the pilgrims flay their victims in the valley of Minâ; and thefe must be fheep, goats, kine, or camels; part of thefe is eaten by themselves and their friends, and the refl distributed to the poor. Having concluded their sacrifices, they flave their heads and cut their nails, burying both in the confecrated ground, and then visit the Caaba to take their final leave of the sacred building.

These ceremonies, as the Mahometans allow, were obferved by the Pagan Arabs many ages before the appearance of their prophet; and were confirmed by Mahomet, with some few alterations. He ordered, that when they compaflled the Caaba, they fhould be cloathed, whereas, before his time, they performed this piece of devotion naked. Each tribe either found or introduced into the Caaba their domelife worship: the temple was adorned, or defiled, with 560 idols of men, engles, lions, and antelopes; and molt conftipated was the image of Hebal, of red agate, holding in his hand seven arrows, without heads or feathers, the in-struments and fymbols of profane divination. But Mahomet defroyed these idols, fancified the Caaba, and made it the chief place of refor and worship for all devout believers. With regard to the procession round the Caaba, Roland (De Rel. Mah. p. 123,) obferves, that the Romans had a ceremony of this kind in their worship: as they were ordered by Numa (see Plutarch on Numa) to ufe a circular motion in the adoration of the gods, either to represent the orbicular motion of the world, or the perfecuting of the whole office of prayer to God who is maker of the univerfe, or elfe in allu- sion to the Egyptian wheels, which were hieroglyphics of the intabilitation of human fortune. D'Hcrbocot. Bib. Or. Sale's Prel. Difc. to the Koran, p. 114, 122.

CAAMINI, in Botany, a name given by the Spaniards and to the finest fort of the Paraguay tea. It is the leaves of a shrub which grows on the mountains of Mara- caya, and is used in Chili and Peru as the tea is with us. The mountains, where the trees which produce this valuable leaf grow naturally, are far from the inhabited parts of Paraguay; but the people of the place know to well the value and use of it, that they constantly furnish themselves with great quantities of it from the spot. They used to go out on these expeditions many thousands together, and their country was left to the infults of their enemies in the mean time, and many of them perished with the fatigue.

To remedy these inconveniences, they have of late planted the trees about their habitations; but the leaves of these cultivated trees have not the fine flavour or the virtues of the wild ones. The king of Spain has permitted the Indians of Paraguay to bring to the town of Santfey, twelve thousand arrows of the leaves of this tree every year: but they are not able to procure so much of the wild leaves annually; about half the quantity is the utmost they bring of this; the other half is made up of the leaves of the trees in their own plantations, and this falls at a lower price, and is called tafko. The arrow is about five and twenty pounds weight; the general price is four piastres for the arrow, and the money is always divided equally among the people of the colony.

CAANA, in Geography. See KENNE.

CAANTJE, in Verkenflap, in Ichthyolog, the Aca- rauna of Margrave, Willughby, Ray, &c. and the Cha- tos o Nicricans of Gmelin, which fea.

CAAOPIA, in Botany, the Brasilian name of Hypericum baciforum.

CAAPEBA. See Cissampelus.

CAB, or KAB, denotes a Hebrew measure of capacity, equal to the sixth part of the fheaf, or an eighteenth of the ephah. Arbuthnot's Tab. Anc. Coins, &c. n. 14. and 15.

The cab of wine contained two English pints; the cab of corn, 2½ pints corn measure.

We also find mention of the cab as a dry measure, in Grecian and Roman writers: some make it equal to the Grecian choinix, and affect it to be the quantity of what a labourer eats per day, as assigned by Cato.

CABAÇOS, in Geography, a market town of Portugal, in Elvemadura, 4 leagues from Espinhal, and 4 from Thomar, situate on a plain in a pleasant country near the river Nabão, and almost encompassed by hills, which confilt partly of land-stone and partly of lime-stone. This town formerly belonged to the knights-templers, after the destruc- tion of which it was transferred to that of Chrift. The plain on which it stands is almost entirely covered with olive-trees, and in its vicinity are cork trees.

CABAIGUAN, a town of the island of Cuba, 35 miles S.E. of Villa del Princep.

CABAL, a name given to a sort of drink made of dried raisins. The manner in which the Portuguese make cabal is this; they take out the stones of about twenty pounds of raisins, and then bruising the raisins a little, they put them into a barrel of white wine, in the month of January or February, and let them stand till about Easter. It is then very clear and rich, luscious and palatable to the palate. It is recommended to fop coughs, and give strength to the stomach. It is worth while to try the experiment with the same proportion of raisins to the same quantity of our English eaver, which would probably prove a fine drink. Phil. Trans. No. 157.

CABAL, in English History, an appropriate appellation, distinguishing the infamous ministry of Charles II. and founded of the initial letters of their names, viz. Clifford, Ashley, Buckingham, Arlington, and Lauderdale. Lord Clifford was an undistinguished papist; the earl of Arlington, a concealed one; Buckingham was a debauchee, and reputed an atheist; Shaftsbury was a man of acknowledged genius, but, according
according to Burnet, a devil; though he possessed great knowledge of men and things, he frequently changed sides as his interest directed; and Lauderdale was a man of learning, and from having been almost a republican, became a tool of the prerogative, and disposed to concur in the most deplorable counsels; with scarcely any traces of religion remaining, though he called himself a Presbyterian, and manifested to the last an aversion to King Charles I. These were the men to whom Charles entrusted the conduct of his affairs; and who plunged the remaining part of his reign into difficulties, which almost proved fatal to his government. By their counsel and concurrence the king and duke of York were encouraged in their designs of introducing popery and arbitrary power; in order to which, a secret treaty was concluded with France; the triple alliance was broken; and a new war declared with the Dutch for destroying their commonwealth; and by this means the king had a plausible pretence for keeping up a standing army, which might serve to secure him in the exercise of an absolute authority over his subjects, to fet aside the use of parliaments, and to settle the Roman Catholic religion in the three kingdoms. At length, however, parliament interposed, A.D. 1674. Clifford, indeed, was dead; Shaftesbury had made his peace with the country party, and Buckingham was defirous of imitating his example; and Lauderdale and Arlington were exposed to all the effects of national retribution. Articles of impeachment were drawn up against the latter, which, however, were never prosecuted; and the former declined daily in the favour of the king, and became contemptible to the people. Thus ended the power of a juncto, that seemed to have formed a plan for overturning the constitution, and establishing upon its ruins unlimited monarchy.

**GENERAL**

*Clavus*, in *Natural History*, a name given by our Sussex miners to one kind of the iron ore commonly wrought in that country. It is a lumpy ore, of a brownish colour, with a bluish red, which is more or less conspicuous in different parts of the same mafle. It is usually found in thin strata, lying not far from the surface, and is not very rich in iron, but it runs very readily in the fire.

**CABALACA**, or *Xabala*, in *Ancient Geography*, a town of Albania, according to Pliny and Ptolemy.

**CABALARIA**, in *Botany*, Flor. Peru, p. 30. Claws and corolla, *pulchra diecia*. Gen. Char. Cal. small, per- simbling, campanulate, with five deep, oval divisions. Cor. wheel-shaped: tube very short; border divided into five oval segments. Stam. anthers five, inserted at the base of the segments of the corolla. Fil. ligula nearly fleshy, five- fided; germ superior, nearly round. Peric. drupe globular, one-seeded, with five oblong points. Male and hermaphrodite flowers on separate plants; the former differ from the latter only in having abortive stamens.

Eight species are described in the *Flora Peruviensis*. They are all shrubs, and are nearly allied to the genus *Sideroxylon*. Jussieu has separated one of them from the rest, and formed for it a distinct genus, which he calls *manghila*.

**CABALL, in *Ancient Geography*, a people of Africa, in Libya, situated in the interior of the country of the *Aegyptii*, according to Herodotus; who represents them as very numerous, and extending along the coasts of the sea towards the territory of Barca, and as adopting customs and habits similar to those of the inhabitants of the country adjacent to Cyrene.**

**CABALIA**, a country of *Aege Minor*, in *Lycaia*, in which were the towns of Oenoanda, Balbara, and Bubor, according to Pliny and Ptolemy.

**CABALISTE**, in *Commerce*, a term used at Thoulese, and in the whole province of Languedoc; and signifying a merchant who does not trade in his own name, but is concerned in the trade of another merchant in chief. See *Anonymous partnership*.

**CABALLARIA**, in *Middle Ages Writers*, lands held by the tenure of furnishing a horsemanship, with suitable equipage, in time of war, or when the lord had occasion for him.

**CABALLEROS, or *Cavalleros*, in *Commerce*, are Spanish wools, of which there is a considerable trade at Bayonne in France.

**CABALLI, among *Mystic Philosophers*, denote the phials or astral bodies of men who died any sudden or violent death, before the expiration of their predetermined term of life. The *caballi*, called also *caulare* or *cohates*, are supposed to wander as goblins or ghosts over the face of the earth, till their defined term is accomplished; being doomed to live out the time as spirits, which they ought to have spent in the flesh.

**CABALLINE, CABALLINUS, from the Greek *kapallai*, a horse, something relating to, or partaking of, the nature and qualities of a horse.**

**CABALLINE Albus. See ALBES.**

**CABALLINUM, Caballonum (Cisfar), Cabyllium (Stam- bo), Cabillo (Poulinger), Cabilla (Anton. Itin.), Cabello- danum (Not. Imper.), and Cabillo (Amman. Marchell.), in *Ancient Geography*, Chalons-sur-Saone, a town which belonged to the Aedui, where Cisfar established magazines, and between which and Augustodunum he formed a communication by a road. The emperor Constantine assembled his army in this place.**

**CABALLINUS Font, a fountain of Greece, in Baeotia, near mount Helicon. It is the Hippocrene of the poets.**

**CABALLUS, FRANCIS, in *Biography*, born at Brescia in Italy towards the end of the 15th century, was several years a distinguished teacher of medicine in the university of Padua, where he died, at an advanced age, in the year 1490. The work by which he distinguished himself is entitled "Libellus de Animali Theissicame Ingratione." It was first published with the Opera Medicinae of Montagna, fol. 1492, Venice, and has been frequently reprinted, and shows the author to advantage, as intimately acquainted with the ancient writers. Haller, Bib. Med. Ely. Diet. Hist.**

**CABALLUS Equus, in *Zoology*, the common-horse, with solid hoofs, a long flowing mane, and tail universally covered with long hairs. See HORSE.**

**CABALSUM, in *Ancient Geography*, a town of Egypt. Antonin. Itin.**

**CABANA, a place of Gudroza, mentioned in the Periplus of Nearchus, and supposed to be the *Ganae of Ptolemy*.**

**CABANDEN, a country of Asia, in Susiana.**

**CABANE, in *Geography*, a town of South Africa, in the country of Brazil, and government of St. Paul.**

**CABANES, Les, a town of France, in the department of the Tan; 4 leagues N. W. of Alby.---Alto, a town of France, in the department of the Arrige, and chief place of a canton in the district of Fox, 2 leagues S.E. of Tarazon. The town contains 4,300, and the canton 5,786, inhabitants; the territory includes 340 kilomètres and 25 communes.**

**CABANODURUM, in *Ancient Geography*, a town of Norica, on the Danube. Ptolemy.**

**CABARET, or Petit Boisse of Buffon, in *Ornithology*, the...**
the mountain linnet of the British Zoology, and the FRIN
GILLA MONTIUM of Cmelin. &c.

CABARITA, in Geography, a small island near the north
coast of Jamaica. N. lat. 18° 54′. W. long. 70° 30′.

CABARITA, a river on the south side of the island
of Jamaica, which runs into the sea about 1 1/2 mile W. from
Savannah la Mer.

CABAROS, or TITAN, the most western of the islands
of Hieres, E. of Toulon, on the coast of France, in the Me-
diterranean.

CABARRUS, a new county of America, in the district
of Salisbury, North Carolina.

CABASA, in Ancient Geography, an episcopal town
of Egypt, in the Delta, and the capital of the nome called
Caubage.

CABASILAS, NILUS, in Biography, a Greek, arch-
bishop of Thessalonica, flourished in the 14th century, and
wrote two treatises against the Latins. The design of the
first treatise is to shew, that the division between the Greek
and Latin churches is owing to the popes having refused
to submit the decision of controverted questions to an ecu-
cumenical council, and arrogating the decision to themselves;
and the second relates to the supremacy of the pope, and
attempts to prove, that though he holds his episcopacy of
Rome from St. Peter, he is indebted for his primacy to
laws, councils, and princes: it also denies the pope's infal-
libility, and his jurisdiction over other patriarchs. These
treatises, which are clear, methodical, and learned, were
first printed in Greek at London, without date; in Greek
and Latin at Baill in 1544; at Francefort in 1555; at
Hainault, with the notes of Salmarius, in 1606; and at
Amsterdam in 1645. This prelate was also the author of
a large work on the procession of the Holy Spirit. Du-
Pin. Molheim.

CABASILAS, NICOLAS, nephew of the former, and his
successor as archbishop of Thessalonica, was employed in
negotiations by the emperor Constantine. In opposition
to the Latins, he composed an acclamatio against them,
and a work "On the Proceedion of the Holy Spirit." He
also wrote "An Epistle of the Liturgy," in which he
delivers the doxologies of the Greek church concerning the
mass; and which was printed in Latin at Venice in 1545,
and at Antwerp in 1550; and in Greek and Latin in the
"Bibliotheca Patrum," Paris, 1624. In the fame "Bib-
ilotheca," is also included his "Life of Jesus Christ," tran-
slated into Latin, and separately printed at Ing-Dillacht,
in 1624. A translation of his work "Against the Ufury" is
also contained in the "Bibliotheca." In the sciences of mathe-
matics and astronomy, he is said to have surpassed all his
contemporaries. With respect to his character as a writer
he resembled his uncle. Du-Pin. Molheim.

CABBASOLE, PHILIP DU, a friend and frequent cor-
respondent of Petrarch, was born at Cavallion in Provence,
and became bishop of that city in 1344. As chancellor to
Sanche, queen of Sicily, he, conjointly with her, governed
that kingdom during the minority of her grand-daughter
Joan. In 1366, he was nominated patriarch of Jerusalem,
and was appointed by Urban V., cardinal and vicar-general
of the dioceses of Avignon. During the residence of the
popes in this city, he was entrusted by Gregory XI. with
the superintendence of the estates of the church in Italy.
He was also bishop of Sabiun. He died in 1372. A work
"De Nugis Curialium," and two books "Of the Life and
Miracles of St. Mary Magdalen," are ascribed to Cabisole.
Du-Pin.

CABASSUS, or CABESSUS. (Homer IIiad. i. xiii. v.
567.) in Ancient Geography, a town of Asia, in Armenia
Hellenicus refers it to Lycaia.

CABASSUT, JOHN, in Biography, a priest of the or-
atory, was born at Aix in 1604, and became director to
Cardinal Grimaldi, whom he accompanied to Rome, and
by whom he was persuaded to publish several works. He
was an indefatigable student, and confiding in his ad-
vise to all who applied to him with cafe of conscience. He
was professor of canon law at Avignon, and died at Aix in
1685. His works are, "Juris Canonice Theoria et Praxis,"
Lyons, 1660, often reprinted, and improved by the notes
of Gibert; in a folio edition, printed at Poitiers in 1738;
"Notitia ecclesiastica Conscientiarum, veternique
Ecclesiic Rituum," 1670, fol.; "A Treatise on Ufury," and
decisions on various questions under the title of "Homo
subsedive." Moreri.

CABATANUS, in Ancient Geography, a town of Ara-
bia Felix, in the territory of the Chatramotizes. Strabo.

CABAY, a name given by the Indians and inhabitants
of Ceylon and Arracan to garments made of silk or cotton,
ornamented with gold, worn by the principal perrons of
the country.

CABBAGE, in Botany. See Brassica rapa.

CABEAGE, in Agriculture. The name of a well known ef-
cient plant, of which there are several varieties cultivated
by the farmer, as winter and spring food for different forts
of live stock. It is a fort of culture that is of much con-
sequence on all the heavy soils which are too moil and
strong for the successful practice of turnip husbandry.
And another circumstance that adds to its importance is
the little danger that attends the crop, and the largeness of
the quantity of food that is produced; as it has been found to
be considerably more in proportion to the space of ground
that is occupied, than that of turnips. Mr. Young has ob-
erved that cabbages "flourish to very great profit on all
good soils, and have the particular property of enabling
the farmers of clays and wet loams, to winter more cattle
than those of lighter lands can effect, by means of that excellent
root, the turnip. The great evil of clay farms used to be,
"fays he, "the want of green winter food, which confined
their flocks to hay alone, and, consequently, prevented their
reaping those extended articles of profit, that arise from
numerous heads of cattle; and, besides the immediate benefi-
c from the cattle, they lost also the opportunity of raising
large quantities of dung, which never can be effected so
c well as by keeping cattle. But all those evils are by the
cabbage culture remedied, and the clay farmers put in po-
zeon, in many respects, of an equality with the turnip
ones. If the difference between a turner fallow-year on clay
and a turnip-fallow on light land be considered, it is im-
portant of this discovery will, he contends, be sufficiently
clear. Thirty shillings for an acre expense of the first, are
not an exaggerated calculation; but all is saved on the turnip
land, perhaps with profit; and the barley that follows the
turnips is probably nearly as good as that which succeeds
the turner-fallow clay. Supposing the following clover
and wheat equal to both, according to soil, till there re-
 mains a superiority in the article manure; for all that is
raised by the consumption of the turnip crop is so much fu-
rior to the clay soil. But reverse the medal; supposc
choose cabbages to be introduced on the clay, and the scene
is changed. That crop will exceed the turnips, yield more
profit, and enable the farmer to make more manure. For
these reasons, the recommendation of cabbages appears to
be extremely well founded, and consequently, those farmers
who possess the proper soils, cannot determine too soon to
enter on the cultivation of them. But there is another cir-
CAB
cumulance attending some sorts of cabbages, which make them highly eligible on all farms, which is, their lasting for deep feed longer in the spring. Ruta baga, turnip cabbage, cabbage turnip, and green borecole, are in perfection in April, and last even to May, the most pinching period of the year. Turnips will do no such thing; consequently, those farmers who prefers turnip soils, should on no account flight the culture of cabbages for this purpose."

In regard to the preparation of the land, the author of "Practical Agriculture" advises, that "as the roots of the plants run deep, and stand in need of a large proportion of nourishment, a considerable degree of pulverisation should be affected, and the soil be well loofened to a considerable depth. Those effects, he conceives, may be produced in the most perfect manner, by repeated deep ploughings, and exposing as large a surface as possible to the action of the frosts during the winter season, by laying the land up into pretty high ridges. Three ploughings are molly found sufficient for this purpose; but the number should always vary according to the nature and state of the land. When this sort of crop succeeds wheat, barley, oats, or beans, the land is generally ploughed up in the autumn by a pretty deep furrow, and formed into ridges of about three feet in width; in this state, it may continue till the spring, when it should be well broken down by harrowing in different directions. It is then to be ploughed again, but with some-what less depth than before. After this, as near as possible to the time of planting, the ground may again be well harrowed over, and a suitable proportion of good stable manure applied, as from fifteen to twenty-three horse cart loads to the acre; or where composts are made use of, from twenty to thirty, and immediately turned into, or inclosed in the middle of the ridges. After this is accomplished, the land becomes ready for the reception of the plants. In some districts, however, a practice prevails of spreading the manure upon the land, and turning it in with the first ploughing. In this way the ground is supposed to be prevented from becoming too open by the action of the manure, and the danger of the plants being injured in droughty seasons prevented. It is obvious, however, he thinks, that in this mode, much of the benefit to be derived from the manure must be lost by its remaining too long incorporated with the soil before the plants are put in, and that the great advantage of having it in its most active and concentrated state, immediately below the roots of the plants, must be wanting." It is stated in the "View of the State of Agriculture in Midlothian," that "in the vicinity of Edinburgh, in preparing for this crop, the ground is ploughed in November, and again in April following, and well reduced by harrowing, &c. It is then laid out in three feet drills, thirty cart loads of dung per acre being laid in the drills, which are then split with the plough covering the dung, and then rolled level, after which, the plants are put in." And the author of the "Agriculture of the County of Kent" conceives, that "the tillage necessary for cabbage is to plough the land in the winter six or seven inches deep, and to crofs-plough it in the spring in a dry season, and then after manuring with a good covering of rotten dung, before planting in June, to plough it again, turning over a furrow ten inches wide for planting upon." But in Suffolk, according to the account of the secretary to the board of agriculture, "the land is prepared by four ploughings: the first of which buries an ample quantity of dung, and forms the land a second time on three feet ridges to be planted upon."

Dr. Dickson, in his "System of Practical Agriculture," observes, that "in the field culture of cabbages, several different sorts are capable of being employed, but that those varieties that are most useful as cattle feed, and the most capable of withstanding the severity of the winters in this northern climate, are the Scotch, the drumhead, the American, and the open green cabbage, or spring kale. The first, when of the true firm flat topped kind, has been found to be wholly incapable of being injured by frosts, except in some cases a few of the outside leaves. The second sort, or true drum-head, is likewise extremely hardy, and more close in its texture than many other varieties, being of course very heavy in proportion to its size. It admits of being planted sooner than the large American cabbage, which in particular situations is an advantage. This sort is known in some districts by the name of the fellow low cabbage, but it would seem to differ from it in some respects. At this kind is not found sufficiently hardy to bear the effects of very severe frosts, a mixed flock is frequently employed, which is produced by planting it and the common red cabbage together, and after the feed pods are formed, cutting the latter, and leaving the former for feed. This mixed kind, which is of a deep green colour veined with purple, besides retaining the size of the drum-head, possesses the hardness of the red cabbage. The third, or American kind, has not only a large size, but continues good to a late period in the spring. The last, or kale sort is perfectly hardy, and capable of being converted to use as a cattle and sheep food at the latter end of April, or beginning of May, when other sorts of green food are extremely scarce, and difficult to be procured. But, besides these, the varieties known by the titles of the flat, Dutch, the Yorkshire, the Savoy, and several others, may, he says, be made use of where the climate is more mild."

The same writer also adds, that "the chief advantage of planting large sized cabbages in the field is that of being capable of being set out at such distances as to readily admit of their being cleaned and kept in order by the plough, without any loss being sustained in the quantity of the produce. Where the soil is not of great futility, and the expense of hand labour reasonable, the smaller sorts may, he thinks, be made use of with advantage."

Mr. Young, however, fears that "the great American cabbage, which thirty years ago was to be had, and which came to 50 or 60, and even Solb. weight is lost at present. And the great cattle cabbage, the great Scotch, the drumhead, the Dutch, and other sorts are not distinct varieties. A farmer should, he thinks, at first get the best flock he can, and then trust only to the feed he raises himself. At present he is inclined to believe, that the best sort to be procured is the large red cabbage. It comes to a good size, and is harder than most others."

In procuring feed for raising young cabbage plants, great care should be taken, that it be obtained from the most perfect plants of the different sorts, and such as have feedeed without any other variety of the same tribe blowing near them, as it is, perhaps, only in this method, that they are capable of being kept of a true kind. It may, therefore, in this view be of great advantage to have the plants intended to stand for feed, planted out by themselves in a piece of ground at a distance from the others, and well protected from birds. When feed of this sort is purchased, such as is now seldom should always be preferred, as it not only vegetates much quicker, but is more to be depended upon for a proper supply of plants. In dry seasons, steeping the feed in water, or some other liquid, may also be of utility. The beds on which the feed is fown should be of a good rich quality, well prepared by digging, and the application of manure; as where the soil is poor and not sufficiently en-
riched, the plants are apt to be weak and stunted in their growth, as well as much injured by weeds. Much injury also frequently arises to young cabbage plants from the seed being sown too thick; care should therefore be taken to have them properly thinned out whenever they come up in too thick a manner. One ounce or an ounce and a half of good seed may in general be sufficient for sowing a bed fourteen or fifteen feet long, and five or six in width, or for raising two or three thousand good plants; in which proportion, half a pound will afford more plants than are sufficient for planting an acre of ground. Mr. Young advises three ounces of seed to each square perch well raked in, and then a peck of foot sown over each foot of ground; and that when it is intended to cultivate these crops on a large scale, an acre of land should be inclosed for the purpose, kept well manured, and the seed drilled in at nine inches, for the convenience of weeding and hoeing.

In respect to the periods of putting the seed into the ground, they must depend much upon the intentions of the cultivator: where the produce is to be consumed during the winter months, as in December, January, or February, the seed should be sown in July the preceding year, and the plants be put out in March, April, and May, the following year; but if intended for consumption in March, April, or May, the seed should be put in about the latter end of February or beginning of March, in the former year, and the plants be set out in the first or second week in July in the same year. By continuing to sow with regularity in the months of February, May, and July, or August, succulent crops of young healthy plants may be secured, and the round of cabbage husbandry be effectually preferred. These periods of sowing and planting out should, however, be attended to with considerable exactness, in order to secure good and certain crops, and the seed-beds be well protected from birds. But that the cultivator may not be disappointed in the number of plants, it may be useful to sow a little seed at different times, at the distance of a few days from these periods, always chusing as moist a time as possible for the purpose. And by hallowing or protracing the time of transplanting, or setting out the crops, the growth of the plants may be so managed as to have them ready for use either more early or later, according as circumstances may require. The author of Practical Agriculture observes, that, "in both the spring and autumn plantings it is, however, the best practice to be sufficiently early, as in the former case the plants will have the great advantage of the spring showers, and be in less danger from the heat of the summer season; and in the latter, more fully established in the soil before the winter sets in, as the growth of the plant after September cannot in any degree be depended upon in field culture. Besides, from the length of time which is requisite for their attaining their full size, it must always be advantageous to have them set out early. They seldom arrive at their full growth in less than four months, where they grow in the most perfect manner. By sowing very early in the spring, and setting the plants out as expeditiously as possible, both full and forward crops may often be obtained. There is, however, in general, an advantage in the autumn plants, that though they be more liable to be injured in the winter by flags, and other causes, they are in a state to be planted out very early in the spring, while those of the spring sowings can seldom be set out till the summer is much advanced." In this culture different methods have been attempted, such as setting the plants to stand the winter in the field, and letting them remain in the seed-bed to be put out in the spring; the former is most advisable in mild winters and sheltered situations, as the crops will be much more forward; but in exposed situations, the latter may be adopted with more success. By sowing in May and June, forward crops of large cabbages may be procured the ensuing year, and celeri-cab for the following spring; but in this last intention they should be planted closer together than usual. In this way the loss of weight, and danger of cabbage crops in the winter months, are fully obviated. On the whole, the former the autumnal plants are put out in the field after the frosts are over, the better; and the spring plants should be placed out as soon as possible after them, as before the end of April. It is the custom of some nice cultivators to prick the plants out from the seed-beds, while very young, into other beds; and the practice is certainly very advantageous, not only in checking their too forward growth, but in rendering them more fit for transplanting out and left liable to run to seed when transplanted into the field. The expense and trouble of this operation are, however, too great, where the cabbage culture is conducted on an extensive scale, to admit of its being generally performed.

Another practice, adopted by the late Mr. Bakewell, and since employed by other cultivators, by which the inconvenience of waiting for a suitable moist time for setting out the plants, and the danger of their not succeeding under other circumstances, are avoided, is that of drilling the seed in where the plants are to remain at the proper seasons, as April, May, or June, and the following month. But the first is the most general in this mode of culture. The crops, in this system of management, should be put in after turnips, potatoes, beans, peas, tares, or others of the hoeing or cleaning kinds; the land being ploughed in ridges three or four feet in width in the latter cases, before the winter frosts, and before the time of drilling the seed, manure to the extent of from twenty to thirty cubic yards to the acre, according to circumstances, introduced by reversing the former ridges. After having remained in this state, secure from rain, a week or fortnight, when the foils are firm, harrowing should be performed, but under other circumstances the roller to which the drill is fixed will level them sufficiently, as they should not be reduced too greatly. In performing the buskins, the Northumberland drill is to be attached to a roller eight feet in length for four feet ridges, and six feet, where they are three, by means of a chain, hooks, and flaps. The roller thus covers the ridge that is drilling and that which is to be drilled by the next turn. Proceeding constantly in this way, the seed will be effectually covered by four pieces of Jack chain about two feet in length, which are fixed to the centre of the drill behind, and drawn after it, and deposited to the proper depth of about half an inch by weighing or on loading the drill. When the plants appear, if a slice of foot be drilled over them to the extent of ten or twelve bushels the acre, Mr. Young thinks it will be of great advantage in protecting them from the attacks of the fly. This, he supposes, may be very conveniently done by one hopper and a round of cups similar to those of Cook's drill, but larger, fixed to such a frame as that of the Northumberland drill.

There can be little doubt but that this method will be highly advantageous, as saving much labour and preventing the plants from being checked in their growth by transplanting, when the foils are sufficiently fine and mellow; but under other circumstances it cannot probably be wholly depended upon.

In planting out crops of this sort, care should be taken to have the buskins performed as soon as possible after the land has been well watered with rain; as in this case the plants much sooner establish themselves in the soil, and fewer
CABBAGE.

fewer vacancies are left, by their decay, to be afterwards filled. The plants are likewise much more readily raised from the seed-bed, and with much less injury to the roots, which is a matter of importance. The work is performed upon the land in a flat furrow, and also when raised into ridges by means of the plough; but the latter method is the more general, and ought probably to be preferred wherever the soil is much inclined to the retention of moisture. On the lighter and more dry soils the flat surface may, however, be more proper and useful, as preferring a due degree of moisture more effectually, especially in dry seasons.

In regard to the distance of planting, it must depend in a great measure upon the strength and goodhealth of the seed, and the natural size of the variety of cabbage that is employed; but in general it should be such as that the ground between them may be cultivated and kept clean by the plough, and yet admit of bearing a full crop. It is evident that where the plants stand thin they will attain a larger size, while in close planting there will be a greater number of plants upon the land, which may compensate for the disadvantage in the want of size. It seems probable that both cabbages and turnips may be set out too thin, as the increase of size is not always equal to that of number. It is the practice in some districts, where this culture is well performed, to set them out regularly at the distance of three feet each way, as, in this method the plough in cleaning and earthing up the crops, can be conducted both in longitudinal and cross direction, and of course the soil between the plants be not only stirred in the most effectual manner, but the earth most completely laid up to the roots of the plants, and their growth more fully promoted. Where the larger varieties of cabbage are employed, and the land is sufficiently strong, this may of course in general be the most advantageous distance; but where the smaller varieties are made use of, and the ground is of a less strong and rich quality, two feet and a half may be a more proper distance. Other cultivators follow a different practice, some preferring four feet by two and a half, while others advise only two feet by twenty inches, or even 18 inches. In the latter distances the cabbages are, however, under the necessity of being handled between the plants in the rows, the intervals only being cleared by the plough. The culture cannot of course be by any means so perfectly performed; the soil in the former method being wholly removed, except the small portions immediately about the roots of the plants, while in these much of it will remain untouched, and be not only left in a more foul condition for succeeding crops, but less beneficial in promoting the growth of the cabbages. The experiments and observations of Mr. Baker, in the cultivation of cabbages in the field, led him to recommend the following as the most suitable distances for the different varieties which he employed.

**Varieties.**

<table>
<thead>
<tr>
<th>Variety</th>
<th>Season</th>
<th>Dishes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-sided cabbage, Winter plants, 2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
<tr>
<td>Flat Dutch cabbage, ditto ditto ditto.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
<tr>
<td>Scotch cabbage, ditto ditto ditto.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
<tr>
<td>Flat Dutch cabbage, Spring plants, 18 inches by 4 feet.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
<tr>
<td>Scotch cabbage, ditto ditto ditto.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
<tr>
<td>Turnip cabbage, ditto 1 foot by ditto.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
<td>2 ft. by 3, or 1½ in. by 4 ft.</td>
</tr>
</tbody>
</table>

The nature of the soils on which they are cultivated is not, however, described.

For all the larger sorts of cabbages on the different sorts of strong rich soils, the most advantageous distances may be three feet each way, and on the more light soils two feet and a half. But for the smaller sorts, two feet each way on the strong soils, and eighteen or twenty inches on such as are light. Whatever distances may be thought the most advantageous, it is observed by a late writer, that it will constantly be necessary to attend to the manner of setting them out, the size of the plants, and the mode of taking them up from the seed-beds, as much depends upon these operations being properly performed. In setting the plants out in the ridge method, it is necessary to have them placed in lines as regularly as possible, according to the distances employed, along the middle or crown of the ridges, immediately upon the part in which the manure has been inclosed; as by having this accomplished in an accurate manner, they not only admit of being cultivated between with more ease and convenience, but derive the utmost possible advantage from the manure, and at the same time, from its being more concentrated, require a smaller proportion to be employed. The size of the plants is likewise a circumstance of consequence, as the large stout plants not only take root with more certainty, but are less exposed to danger from slugs and other causes. In removing the plants from the seed or other bed, for the purpose of being planted out, it is also of much utility to have their roots as little broken or otherwise injured as possible.

Moist or rainy weather is the most suitable for this operation; but in dry seasons it may be safely accomplished after the plants in the beds have been well watered. The number of plants that are employed must obviously be different, according to the distances at which they are planted; but from five to seven thousand are generally sufficient for an acre of land. In setting the young plants out into the ground, it is necessary to see that the labourers fix them well in the soil, by applying the mould firmly round their roots by means of the dibble, that they cannot easily be drawn out by taking hold of their uppermost leaves. The plants are mostly dropped at proper distances by women and children, and the dibblers follow, having a click for marking the distances with in an exact manner. In this way an ordinary labourer will plant a quarter of an acre or more in a day, and an expert gardener nearly as much more. In the course of a fortnight or three weeks, after the first setting out of the plants, it will be requisite to fill up all the vacancies that have been produced by the failure of particular plants; in performing which a moist time, if it be possible, should be fixed upon.

In respect to the expense of planting out and the other necessary operations in crops of this sort, it must be liable to vary greatly, according to the circumstances of the soil, and the fertilization in respect to labourers. In Suffolk, according to the writer of the corrected report of the agriculture of that district, it is in general about three thillings the acre, but in other places frequently a little higher, the whole charge of an acre being estimated in this way:

**Expence of cabbage culture on one acre.**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Charges for rent</td>
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<tr>
<td>Tythes</td>
<td>£ 0 1 6</td>
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<tr>
<td>Poor rates</td>
<td>£ 0 1 3</td>
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<tr>
<td>For ploughing land five times</td>
<td>£ 1 0 0</td>
</tr>
<tr>
<td>Harrowing twice</td>
<td>£ 0 0 6</td>
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<tr>
<td>Manuring</td>
<td>£ 2 0 0</td>
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<tr>
<td>Seed-bed and feed, &amp;c.</td>
<td>£ 0 1 6</td>
</tr>
<tr>
<td>Planting out</td>
<td>£ 0 3 0</td>
</tr>
<tr>
<td>Filling up deficiencies</td>
<td>£ 0 0 6</td>
</tr>
<tr>
<td>Hand-hoeings</td>
<td>£ 0 4 0</td>
</tr>
<tr>
<td>Horse-work in hoeing</td>
<td>£ 0 4 0</td>
</tr>
<tr>
<td>Cutting and cartage, one fourth of a mile,</td>
<td>£ 0 15 0</td>
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£ 5 1 3
CABBAGE.

In this climate, the whole of the expense of manure is, however, it is observed, charged to the cabbage crop: but the advantage ought properly to be divided, which would lighten the expense considerably. From the increase in the prices of land and labour which has lately taken place, the expenses of this sort of cultivation will at present fland considerably higher.

In the after culture of this sort of crop, much advantage is derived from having the mould or soil frequently flurred and applied to the roots of the plants. It is, indeed, only by a due repetition of these operations, that the plants attain their most perfect size and growth. The buffaloes are accomplished by means of ploughs, hores, and hand-hoes. Where the plants are set out in a regular manner at sufficient distances, the work may be performed in the most cheap and effectual way by the use of the horse-hoe, or the common light wing-plough; but, where narrow distances are employed, it can only be well executed by means of the hand-hoe. Sometimes both the horse and the hand-hoe are made use of, as where the crop is planted close in the rows with wide intervals. It is observed, by an useful modern writer, that " the number of hoeings must in general depend upon the flate of the land and the nature of the season, but three will in most cafes be necessary. The fiirst should be givien about three weeks or a month after planting, according to the growth of the plants, and the second at an equal distance of time; the third may be repeated as the necessity of the crop may require, attention being constantly paid to keep the land perfectly clean from weeds, and the earth or mould well loosen and laid up to the plants. In the first operation, it is usual to turn the mould or soil from the plants, but, in the subsequent ones, to apply it up to them, which, where the plants are set regularly in squares at the distance of three feet, may be performed in both directions of the ground, in the most perfect manner. In this way the cultivator not only in a great measure avoids the heavy expense of hand-hoeing, but contributes to the growth of the crop in the most effectual manner."

In executing the work by means of horse labour, some make use of the horse-hoe, others, the double mould-boarded and common hoe ploughs; and it has been contended by Dr. Anderson, that it may be effected with equal exactness, and in an equally effectual manner, by any common light wing-plough. The author of "Practical Agriculture" observes, "that, after these hoings have been accomplished, the hand-hoe may be occasionally employed just about the roots of the plants, if there should be necessity. And where the crops are planted out at narrow distances, either wholly or in the rows only, it must altogether, or in a great measure, be dependent upon for the after-culture of the crops. In these cafes two or three hoings are most often found necessary. The expense of each hand-hoeing in such crops is, in general, from two shillings to half a crown, or three shillings an acre." And where the crops have been put in, in the drill method, they will require to be thinned out to proper distances in the rows as soon as the plants have attained a few inches growth, being afterwards cleared and moulded up in the same manner as those which are planted out in the common way.

These crops, like many others, are liable to be injured by the attacks of animals of the insect kind, at different periods of their growth. While the plants are young and tender in the feed-bed, the beetle, or fly, often greatly injures or destroys them. They, likewise, occasionally suffer in the feed-bed from the attacks of the caterpillar, produced by the cabbage butterfly (Papilio Brassicae), though much less frequently, as this insect makes its appearance, in general, too late to do much injury to field crops. Much harm is likewise done to cabbage-plant while young, on their being first planted out, by the flies, but afterwards they are little exposed to its attacks. The depredations of the fly or beetle, as well as the caterpillar, may, in general, be, in a great measure, prevented, by the sowing or dispersing of wood ashes, foot, or other similar matters, in a powdery flate, over the young plants, on the first appearance of the insects among them. But, "besides the attacks of insects on the leaves of the plants, cabbages are subject to a disease in the roots, in which they become swelled out and knobby, and the plants weak and of imperfect growth. This vegetable disease has been supposed to be cause by the attacks of grubs below the surface of the ground, and to be chiefly prevalent where the same sort of cabbages are grown and planted on the same spots of ground for several years together."

It has been remarked, that, "where care is taken to plant out the proper hardy sorts of cabbage, there is little danger of their being injured by the severity of the frosts during the winter months, as seldom more than a few of their large outside leaves have been found to suffer. Many of the hardy varieties of cabbage have, indeed, been found to stand the winter frosts equally, or even better, where there are frequent thaws, than those of the broccoli, or kale kinds; but the latter would appear better adapted as a green food, especially for sheep, in the early spring months, as it may be repeatedly eaten down or cut over, and by that means furnish a more full supply of food."

It has been remarked, "that, in respect to the quantity of produce that may be derived from an acre of land under a crop of this kind, it must depend in a great degree upon the quality of the soil, the proportion of manure that is employed, the method of culture, the goodness of the plants, and the favourableness of the season, about the time of planting them out." But that "it may probably, in general, be estimated at from twenty to thirty tons. In comparing the produce of cabbage crops with those of turnips in different modes of planting, and on different kinds of soils, it was found, taking the best part of the crops, that, at a medium, an acre of the former, on good land, well managed, produced twenty-five tons, and of the latter fifteen tons. The value of the crops must likewise be affected by various circumstances, as the kinds of live flock by which they are consumed, the manner in which it is accomplished, and the situation of the cultivator with respect to markets; but that, in common they may be calculated at from four or five to seven or ten pounds the acre, and in many situations considerably more."

It has been farther observed, in a late work, that "in the application or expenditure of cabbage crops, as they are often liable to a considerable diminution in the quantity or weight of food which they contain, by standing over the winter to the spring months, it may be the best and most economical practice to make use of them late in the autumn, while their leaves are in perfection, in completing the fattening of such neat cattle or sheep as have been brought considerably forward in the parcellies during the summer season. In this way there is much less loss infallinated than is generally the case where they are suffered to stand for spring feed, by the decay and deftruction of the outside leaves and other parts of the plants. In the feeding of milch-cows, at the same period, they may likewise be of very great utility, as supplying a large proportion of green food, whether the whole plant be made use of, or only the more loose green leaves, which may often be removed with-out much injury to the cabbages. In this method of application,
CABBAGE.

Cabbage, Turrip. See Brassica.

Cabbage, Dog's. See Theligenon Cynocrambe.

Cabbage, parsnip. In Agriculture, is a plant of the cabbage kind, in which the bulb or apple is of a roundish flat form, appearing principally above the surface of the ground, and as it were an enlargement of the stem of the plant, the leaves that surround it having much resemblance to those of broccoli. It has been occasionally cultivated under the title of cape cabbage, and often confounded, with the turnip-rooted cabbage, by those who have not sufficiently attended to the circumstances by which they are distinguished. It would seem to be the plant cultivated in different parts of Germany under the title of fablebrabi. The result of the trials made with it in field culture would seem to shew it a useful hardy plant.

The soils most adapted to the growth of this plant are those of the more light and dry kinds, that have some degree of elevation, with respect to situation, and which are in a good state of fertility from previous tillage. The land should be prepared, by ploughing three or four times, in nearly the same manner as for the common turnip; being laid up in the autumn, in order to be rendered fine and mellow. When thus prepared, at the time of planting, it should be ploughed into small two-bout ridges, and a suitable proportion of manure turned in. On the ridges, when flattened by a light roller, the plants are to be put in.

The same method should be pursued in providing the feed as has been advised for cabbages. In this culture it is sometimes sown in beds in the fields, whence the plants are afterwards to be drawn and set out; and in others, in drills or broad-cast, where the plants are to remain, being only thinned out to proper distances by the hoe. Dr. Dickson remarks, in his "Practical Agriculture," that "the frit method is probably, in general, to be preferred, though some cultivators contend that the plants succeed better, when not removed from the places in which they were deposited when sown, and which later experience in cultivating the common cabbage seems to show to be the case. Where the transplanting method is practised, the feed should be sown
fown sufficiently early to have the plants of a proper size, as about six or seven weeks growth at the time of transplanting. About the middle of March, or beginning of April, may be the most proper periods. The seed, in these cases, should be fown very thin, and the weak plants afterwards thinned out, till they are left at not less than three inches distance from each other. Five or six ounces of seed will, in general, be a proportion sufficient for affording plants for setting out an acre of ground. In the drill method, the same proportion of seed may also in common be sufficient, which should be put in the soil about the beginning or middle of April; but if fown later, as in May or June, it frequently succeeds. In the broadcast mode, from the plants not coming quickly to the hoe, the latter end of March may probably be the most proper period of sowing; the proportion of seed being somewhat increased.

The planting of these crops may be performed either upon the plain surface of the prepared ground, or after it has been thrown up into ridges in the manner first described; but the latter is by much the best method, especially where the land is inclined to moisture. The most eligible time for executing the buskins is, as in the common cabbage, when the land has had a good shower of rain, the operations of ploughing and set ting out the plants proceeding together; but Dr. Dickson observes, that "neither operation should be attempted when the ground is much soaked with rain, as much injury is not only done to the land, but the plants seldom thrive well."

In planting out, different distances are practised; some preferring the distance of two feet from row to row, and eighteen inches apart in the rows, where the soils are good; but in those of inferior quality not more than twelve; while others advise their being planted two and a half or three feet asunder, on two-bout ridges, the plants being placed as nearly as possible in the middle, immediately upon the dung, as recommended in the culture of the common cabbage.

The after culture in the crops must be performed in different ways, according to the methods of sowing or planting that have been practised. When the seed is put in by the hand, the crop can only be kept clean by means of the hand-hoe, which should be applied as frequently as is necessary for the purpose. But in the drill method, as well as where the crops are planted out with broad intervals and narrow distances in rows, it may be convenient to make use of both the plough or horse-hoe, and the hand-hoe, employing the former in flirling and clearing the intervals, and the latter in keeping the ground between the plants clean. When planted on ridges, it is recommended, that as soon as the plants have become firmly established in the soil, and weeds begin to appear, to throw a furrow from each side of them by means of a small plough that is narrow behind, flirling the parts not thus moved by the hand-hoe, and after the decay of the weeds these turned down, but before the plants get too large to return them to their former situation, care being taken, not to cover the hearts of the plants with the earth. These operations may be repeated as frequently as the state of the crop may require. But as this plant forms its bulb above the surface of the ground, the earth or mould should never be laid up so much to the roots of the plants as in the common cabbage, as it may not only prevent the swelling of the bulbs, but cause their destruction. It has been suggested in the work just noticed, that in dry seasons this plant may probably be cultivated with greater advantage than that of the turnip, as not being subject to the destructive attacks of the fly, and being less exposed to danger from other animals that are liable to destroy crops of that sort. When situated close to turnips that have been wholly devoured by the fly, it has never been perceived that plants of this kind were in the least touched by it. The bulbs or roots of these plants frequently attain a considerable size where the soils are good, the largest sometimes weighing eight or ten pounds, and are said to be much more hardy than the common turnip, though not so much so as the turnip-rooted cabbage. The quantity of produce on an acre is not probably in general equal to that of the common turnip, though it is very considerable.

The application of this sort of cabbage is chiefly in the feeding of neat cattle and sheep during the autumn or spring months, according as it may be fown more early or late; but the most profitable appropriation of it is probably in the latter season, as from the middle of March, till it is removed from the ground. In this way it may become an useful affidant to crops of the turnip kind. In which use, it possesses a particular advantage, in being formed, as it were, upon a footstalk above the surface of the earth, as it can on that account be more conveniently got at and removed during the time of frost, or when snow is upon the ground, than the common turnip. The proportion of nutritious matter contained in crops of this sort is considerable, and of a rich quality. Cows thrive extremely well on it when given in a proper manner. When fed off by sheep, the best method is that of bundling, in the manner practiced for common turnips. In this mode of application they are said to require little or no hay, even where the intention is to fatten the animals, as they make a greater progress on them than on any other sorts of food, except that of oats. Both cows and sheep have been found to feed upon the sprouts with avidity, after their having blossomed, and been cut and left to wither. But this practice should be cautiously practiced, as much injury must constantly be done to the land, by the plants being suffered to run to seed. When the bulbs are shrunk and withered from being cut and packed up in houghes, they are said to form a nutritious food for horses, but further trials are wanting to fully establish the fact. It is observed, in the "Annals of Agriculture," that instead of cutting off the bulbs below the parts where they are formed, in order to preserve them in houghes for the above purpose, it is the practice of some cultivators to plough them up whole, using a common plough, without any coulter, having only a round share with a blunt edge for the purpose. This is passed along under the rows, and performs the work with much ease, and in a very expeditious manner.

CABBAGE, turnip-rooted, in Botany. See Brassica.

CABBAGE, turnip-rooted, in Agriculture, a plant of the cabbage kind, which differs principally from the former, in forming its bulb, or protuberance, below the surface of the ground, in having it of an oblong shape, and in the leaves bearing a considerable resemblance to those of the common turnip. It has been introduced into field culture with advantage. The soils best suited to the growth of this sort of crops are those of the more friable loamy kinds, or such as have been formed by the gradual deposition of earthy matters from the overflows of large rivers, or the sea. But of whatever kind, the parts of them should have been well broken down and reduced by means of tillage, and not be too retentive of moisture. In preparing the ground, it should be brought into a considerable state of pulverization, or fineness, by repeated ploughings and harrowings; and enriched by the application of manures, in the proportion of eight or ten waggons load to the statute acre, which should be turned in with the last ploughing, in forming the one-bout ridges for receiving the plants. This is sometimes performed by the common plough; but it probably may be executed with more exact-
CABBAGE.

It is particularly necessary to attend to this last operation in dry seasons, as the success of the crop in a great measure depends upon it; and at the same time care should be taken that a greater number of plants be not drawn from the feed bed than can be planted out in the same day, and that they be as little as possible exposed to the action of the sun and wind. It is also necessary for a few days to guard against their being pulled up and destroyed by rooks, or other birds, which are apt to attack them.

The after culture of the crops must be carefully attended to in the east, as well as in other crops of a similar kind. In about ten days, or a fortnight, when the plants grow well, they will in general require the assistance of the hand-hoe, to clear the ridges and give the plants a flight dressing. And as soon afterwards as may be convenient, the intervals should be cleared either by the common plough, or any other more suitable implement, by passing them twice along each, turning the furrows, where the land is clear, and not too close or compact, up towards the rows, being careful not to earth up the plants to too great a height; but where the contrary is the case, he turned from them, so as to form a ridge in the middle of the interval, the implement being passed within a few inches of the plants in performing the operation. This ridge in dry seasons should be split down, and returned to the row again, in the course of a few days; another hand-hoeing being given as soon afterwards as may be found convenient. This last operation may frequently be unnecessary on the more light and clean descriptions of land; but on the strong and more compact soils it may be had recourse to with advantage, both in respect to the present and future crop.

The quantity of produce in crops of this kind, is frequently found, on good land, to be from 2° to 3° tons on the acre. It is stated, in the ninth volume of the Bath papers, that, in a practice of 20 years, the produce of an acre of this crop was, on an average, invariably found to be equal to the support of 5° sheep for a month, in the most hungry, trying, and difficult part of the year; and this on land then not worth more than 13°. an acre, but which contained between seven and eight thousand plants, averaging above four pounds each in weight. In the Transactions of the Society for the Encouragement of Arts, &c. various accounts are given of the great use of the produce of these crops, as well as of their vast utility as a late spring sheep feed. They have likewise been found beneficial in feeding milk cows, and hogs are very fond of them, fows giving abundance of milk while feeding on them. From this plant being a native of a more cold and northern climate, it of course retains, in some measure, the late habits of the situation from which it was originally brought, and becomes proper for the purpose of feeding live stock, at a later period in the spring, than many other plants to which it has a resemblance. It is seldom before the middle of April that the juice begins to rife, and the plant becomes proper for being fed upon. About this time, however, as is shown by the bulky appearance of its top, it begins to push forward, and be in a condition to be made use of. When employed before this period, it is laid, in the work just noticed, to be comparatively of little advantage; and, in some cases, even injurious to the animals that feed on and confume it. The principal application of crops of this kind is in the feeding of sheep, which are confined upon portions of them by hurdles, in the manner practised for the common turnip. The roots are, however, to be pulled up and prepared by being cut in two by means of an implement of the mattock kind, having a claw on one side nine inches long, with a transverse edge at its end, two inches in width, and on the other a fort of cleaver;
As to the origin of the cabbala, the Jews relate many marvellous tales. They derive the mysteries contained in it from Adam; and affir, that whilof the first man was in Paradise, the angel Raphael brought him a book from heaven, which contained the doctrines of heavenly wisdom; and that when Adam received this book, angels came down from heaven to learn its contents, but that he refused to admit them to the knowledge of sacred things, entwined to himself alone; that, after the fall, this book was taken back into heaven; that, after many prayers and tears, God restored it to Adam; and that it passed from Adam to Seth. The Jewish sages further relate, that the book being lost, and the mysteries contained in it almost forgotten, in the degenerate age preceding the flood, they were restored, by special revelation, to Abraham, who transmitted them to writing in the book "Jezi hour;" and that the revelation was renewed to Moses, who received a traditionary and mystical, as well as a written and preceptive, law from God. Accordingly, the Jews believe, that God gave to Moses on Mount Sinai, not only the law, but also the explanation of that law; and that Moses, after his coming down, retiring to his tent, rehearsed to Aaron both the one and the other. When he had done, Aaron standing on the right hand, his sons, Eleazar and Ithamar, were introduced to a second re- eal; this being over, the seventy elders that composed the sanhedrin were admitted; and finally, the people, as many as pleased; to all of whom Moses again repeated both the law and explanation, as he received them from God. So that Aaron heard it four times, his sons thrice, the elders twice, and the people once. Now, of the two things which Moses taught them, the laws and the explanation, only the first were committed to writing; which is what we have in Exodus, Leviticus, and Numbers: as to the second, or the explanation of those laws, they were contented to impress it well in their memory, to teach it their children; they to theirs, &c. Hence, the first part they call simply the law, or the written law; the second, the oral law, or cabbala. Such is the original notion of the cabbala.

The cabbala being again lost amidst the calamities of the Babylonish captivity, was once more revealed to Eldad; and it is said to have been preferred in Egypt, and transmitted to posterity through the hands of Simeon ben Setach, Elkanah, Akiba, Simeon ben Joachai, and others. The only warrantable inference from these accounts, which bear the obvious marks of fiction, is, that the cabbalistic doctrine contained early credit among the Jews as a part of their sacred tradition, and was transmitted, under this notion, by the Jews in Egypt to their brethren in Palestine. Under the sanction of ancient names, many fictitious writtings were produced, which greatly contributed to the spreading of this mythical system. Among these were "Sepher Habbalah," or the book of wonders; "Sepher Hakkahash," or the book of the pen; and "Sepher Habbalat," or the book of light. The first unfolds many doctrines laid to have been delivered by Elias to the rabbi Elkanah; the second contains mystical commentaries on the divine commands; and the third illustrates the most sublime mysteries. Among the profound doctors, who, besides the study of tradition, cultivated with great industry the cabbalistic philosophy, the most celebrated personages are the rabbi Akiba, who lived soon after the destruction of Jerusalem (See Akiba) and Simeon ben Joachai, who flourished in the second century (See Simeon ben Joachai). To the former is ascribed the book, entitled "Jezi hour," concerning the creation; and to the latter, the book "Solar," or brighter, and these are the principal sources, from which we derive our knowledge of the cabbala. From the third century to the tenth, few traces of the cabbalistic philosophy occur.
occur in the writings of the Jews. The probable reason is, that these mysteries, which differ materially from the ancient doctrine of the Jewish church, were entreatly only to the initiated, under a solemn oath of secrecy; and therefore few persons would venture to commit them to writing. Books that were written would be judiciously concealed from public inspection, and their enigmatical language would be a veil upon their meaning, which could not be broken by the vulgar hand of an uninstructed Jew. Besides, the Jews were for many centuries deeply involved in controversies concerning their traditional laws, and if they were posseffed of technical erudition, they thought themselves sufficiently learned: not to add, that the whole nation was oppressed and harassed by persecution.

That this system of the cabalistic philosophy, which we may consider as the esoteric, eretic, or concealed doctrine of the Jews, by way of contradistinction from the esoteric or popular doctrine, was not of Hebrew origin, we may conclude with a very great degree of probability, from the total dissimilarity of its abstruse and mysterious doctrines, to the simple principles of religion taught in the Mosaic law; and that it was borrowed from the Egyptian schools will sufficiently appear from a comparison of its tenets with those of the oriental and Alexandrian philosophy. (See Alexander.) Many writers have, indeed, imagined that they have found in the cabalistic dogmas, a near resemblance of the doctrines of Christianity, and have thought, that the fundamental principles of this mythical system were derived from divine revelation. This opinion, however, may be traced up to a prejudice which originated with the Jews, and passed from them to the Christian fathers, by which they were led to ascribe all pagan wisdom to an Hebrew origin; a notion which very probably took its rise in Egypt, when the Pagans first crept in among the Jews. Philo, Josephus, and other learned Jews, in order to flatter their own vanity, and that of their countrymen, industriously propagated this opinion; and the more learned fathers of the Christian church who entertained a high opinion of the Platonic philosophy, halfly adopted it, from an imagination that if they could trace back the most valuable doctrines of Paganism to a Hebrew origin, this could not fail to recommend the Jewish and Chaldaic religions to the attention of the Gentile philosophers. Many learned moderns, relying implicitly upon these authorities, have maintained the same opinion, and have thence been inclined to credit the report of the divine original of the Jewish cabala. But the opinion is unfounded; and the cabalistic system is essentially inconsistent with the pure doctrine of divine revelation. The true state of the case seems to be, that the Jews, like other oriental nations, from the most remote period, had secret doctrines or mysteries. During the prophetical ages, thofe, probably, consisted in a simple explanation of these divine truths, which the prophets delivered under the veil of enigmas. After this period, when the sects of the Essenes and Therapeutae were formed in Egypt, foreign tenets and inquisitions were borrowed from the Egyptians and Greeks, and, in the form of allegorical interpretations of the law, were admitted into the Jewish mysteries. These innovations chiefly consisted in certain dogmas concerning God and divine things, at this time received in the Egyptian schools, particularly at Alexandria, where the Platonic and Pythagorean doctrines on these subjects had been blended with the oriental philosophy. The Jewish tenets, thus enlarged by the accession of Pagan dogmas, were conveyed from Egypt to Palæstine, at the time when the Pharisees, who had been driven into Egypt under Hyrcanus, returned, with many other Jews, into their own country. From this time the cabalistic mysteries continued to be taught in the Jewish schools; but, at length, they were adulterated by a mixture of Peripatetic doctrines, and other tenets, which sprang up in the middle age. These mysteries were not, probably, reduced to any systematic forms in writing, till after the dispersion of the Jews, when, in consequence of their national calamities, they became apprehensive that those sacred treasures would be corrupted, or lost. In preceding periods, the cabalistic doctrines underwent various corruptions, particularly from the prevalence of the Aristotelian philosophy. The similitude or rather the coincidence, of the cabalistic, Alexandrian, and oriental philosophy, will be sufficiently evinced by briefly stating the common tenets in which these different systems agreed; they appear to follow: "All things are derived by emanation from one principle: and this principle is God. From him a substantial power immediately proceeds, which is the image of God, and the source of all subsequent emanations. This second principle sends forth, by the energy of emanation, other natures, which are more or less perfect, according to their different degrees of distance, in the scale of emanation, from the first source of existence, and which constitute different worlds or orders of being, all united to the eternal power from which they proceed. Matter is nothing more than the most remote effect of the emanative energy of the Deity. The material world receives its form from the immediate agency of powers far beneath the first source of being. Evil is the necessary effect of the imperfection of matter. Human souls are distant emanations from Deity, and after they are liberated from their material vehicles, will return, through various slates of purification, to the fountain whence they first proceeded." From this brief view it appears, that the cabalistic system, which is the offspring of the other two, is a fanatical kind of philosophy, originating in defect of judgment and eccentricity of imagination, and tending to produce a wild and pernicious enthusiasm. For a fuller account of the tenets of the Jewish cabbala, we refer to Brucker's Hist. of Philos. By Enfield. Vol. ii. chap. iii.

Dr. Burnet examines into the merits of the several parts of the cabbala, which he finds to be without rational foundation, and not conducing to any real knowledge. But he conjectures, that the most ancient cabbala, before it was confounded and defiled with fables, might contain something of the original of things, and their gradations; particularly, that, before the creation, all things had their being in God; that from him they flowed as emanations; that they will all flow back again into him, when they are destroyed; and that there will succeed other emanations and regenerations, and other destructions and absorptions to all eternity, as they had been from all eternity; that nothing is produced out of nothing; and that the things produced never return to nothing, but always have their sublimity in God. Burn. Arch. Philol. i. cap. 7. Phil. Trans. No. 201. p. 300.

Among the explications of the law, which, are furnisht by the cabbala, and which, in reality, are little else but the several interpretations and decisions of the Rabbins on the laws of Moses, some are mythical; confounding of old abstruse significations given to a word, or even to the letters whereof it is composed; whence, by different combinations, they draw meanings from Scripture, very different from those it seems naturally to import. The art of interpreting Scripture after this manner is called by the more particularly cabbala: and it is in this last sense the word is more ordinarily used among us. This cabbala, called also artificial cabbala (to distinguish it from the first kind, or simple tradition), is divided into three forts. The first, called gematria, consists in taking letters as figures, or arithmetical numbers, and explaining
explaning each word by the arithmetical value of the letters whereof it is composed; which is done various ways. The second is called {
iturtonian;} and consists either in taking each letter of a word for an entire division, or in making one entire division out of the initial letters of many. The third kind, called thururary, q. d. changing, consists in changing and transposing the letters of a word; which is done various ways.

The generality of Jews prefer the cabbala to the Scripture; comparing the former to the sparkling luftre of a precious stone, and the latter to the fainter glimmering of a candle.

The cabbala only differs from maforah, as the latter denotes the science of reading the Scripture, the former of interpreting it. Both are supposed to have been handed down from generation to generation by oral tradition only, till at length the readings were fixed by the scribes and accents, as the interpretations were by the maforah and gemara. Prideaux Comm. p. i. lib. v. p. 396.

The cabbala hitherto spoken of may be called speculative cabbala; in opposition to the following, which may be called practical cabbala.

CABBALA is also applied to the use, or rather abuse, which visionaries and enthusiasts make of Scripture, for discovering futurity, by the study and consideration of the combination of certain words, letters, and numbers, in the Sacred Writings. All the words, terms, magic figures, numbers, letters, charms, &c. used in the Jewish magic, as also in the hermetical science, are comprised under this species of cabbala, which professe to teach the art of curing diseases, and performing other wonders, by means of certain arrangements of sacred letters and words. But it is only the Christians that call it by this name, on account of the resemblance this art bears to the explanations of the Jewish cabbala: for the Jews never use the word cabbala in any such sense, but ever with the utmost respect and veneration. It is not, however, the magic of the Jews alone which we call cabbala, but the word is also used for any kind of magic.

CABBALIC art, Art cabalica, is used by some writers for art palestifex, or the art of wrestling.

CABBALISTIC art. See CABBALA, and CABBALISTS.

CABBALISTS, a sect among the Jews, who follow and practise the cabbala, or interpret Scripture according to the rules of the literal cabbala, above laid down.

The Jews are divided into two general sects; the Caraites, who refuse to receive either tradition, or the Talmud, or any thing but the pure text of Scripture; and the Rabbinists or Talmudists, who, besides this, receive the traditions of the ancients, and follow the Talmud.

These latter are again divided into two sects; pure Rabbinists, who explain the Scripture in its natural sense, by grammar, history, and tradition; and Cabbalists, who, to discover hidden mystical senses, which they suppose God to have concealed therein, make use of the cabbala, and the mystical rules and methods above mentioned.

There are visionaries among the Jews, who believe that Jesus Christ wrought his miracles by virtue of the mysteries of the cabbala. Some learned men are of opinion, that Pythagoras and Plato learned the cabalistical art of the Jews in Egypt; and fancy they see evident foot-steps thereof in their philosophy: others, on the contrary, say, it was the philosophy of Pythagoras and Plato that first furnished the Jews with their cabbala. Be this as it will, it is certain, that in the first ages of the church, most of the heretics gave into the vain notions of the cabbala; particularly the

CABBY, as an inhabitant of the cabbin, and to mark it. See CABBY.

CABBY or CABBEE, in Geography, lies N. of Holyhead island, on the coast of Wales, about two miles from the north point of that island.

CABE, a river of Spain, which uniting with the Velezor, runs into the Minho, a little to the west of Orense in Galica.

CABECA, or CABESS, in Commerce; the Portuguese who carry on the trade of fish in the East Indies, distinguish them by the names of cabea, and lavilla; that is to say, head and belly. The cabea fish is the finest; the lavilla being from fifteen to twenty, per cent, inferior to them. The Indian workmen endeavour to mix them together; for which reason the more experienced European merchants, who carry on that trade, take care to open the bales, and to examine the skins. The Dutch distinguish two sorts, viz. the ordinary cabbal, and the "caballa de mora."

CABECA de Vida, in Geography, a small town of Portugal, in the province of Alentejo, w. a strong castle. N. lat. 39°. W. long. 60° 43'.

CABECA, L.A. in Zoology, a snake of South America in Panama, there called the double-headed snake, from an imagination that it has a head at each extremity, and that from the bite of each it conveys a poison equal in activity to that of the coral or rattle-snake. Its usual length is said to be about half a yard, resembling in figure an earth-worm. Its diameter is about six or eight lines, and its head different from the heads of other snakes, being of the same dimensions with its body. The creature, however, has only one head, which, as it resembles a tail, has occasioned the notion that it has two heads. Its motion is very slow, and its colour variegated with spots of a paler tint.

CABEÇAS, Las, in Geography, a town of Spain, in the province of Andalucia, containing several ruins that indicate its having been formerly a large place; 4 leagues S. of Seville.

CABEÇAS Rubias, a town of Spain, in the country of Seville, on the confines of Portugal; 40 miles N. W. of Seville.

CABEÇAS, a town of Spain, in the province of Surial, 130 miles S. W. of Havanna.

CABEÇON, a town of Spain, in the province of Leon, seated on a mountain, with a fort on the river Pilunega; 3 leagues N.N.E. from Valladolid. Allo, a town of Spain, in the province of Aturmf; 18 miles W.S.W. of St. Andre.

CABEGO, a river of Portugal, which runs into the Lima, 7 miles above Ponte de Lima.

CABEL, or KABEL, ADRIAN VANDER, in Biography, a painter of landscape, sea-scene, and cattle, was born at Rywick, in 1657, and became a disciple of John Van Goyen, under whose instruction and example he made a rapid progress in his profession, and by whom his name was changed from Vander Touw to Vander Cabel. He copied nature and designed every object before he invented any in his compositions. His taste in designing animals and figures was formed after that of Calliglione; and in landscape his model was the style of Salvator Rosa. His manner is great, and much after the goûtt of the Italian school. The touchings of his trees are excellent; his figures and animals are very correct, and marked with spirit.
Although his different pictures have unequal merit, they are all distinguished by the freedom of his hand, and the incisiveness of his pencil. In his colouring he was licentious to imitate the Caracci and Mola; but the beauty of his design and composition is often injured by too dark and deep tone of colouring. His sketches, of which some few remain, are performed in a flight, free style. He died in 1695.

CABELLIO Canturion, Cavallion, in Ancient Geography, a town of Gallia Narbonensis. This was a Roman colony in the time of the triumvir Lepidus, 42 years before the Christian era. Wit's regard to the construction of the triumphal arch of Carollion it is conjectured, that as Pompey had granted the two banks of the Rhone to the inhabitants of Marseille, the town of Cavaillon, upon the Durance and near the Rhone, belonged to them. This monument was accordingly erected to commemorate the exploits of Pompey and the Roman armies. The medals of this city were bronze, gold, and silver.

CABEIIO port, in Geography, lies on the north coast of the Spanish main, in N. lat. 1° 31'. W. long. 67° 34'.

CABLEON, lies on the coast of Coromandel in India, 7 miles from Coromone N. by E. and 5 leagues from Madras or fort St. George. To the south of Cabelon are the 7 Pagodas, by which the town is known.

CABENDA, or Cabinda, a sea-port town of Africa, in the kingdom of Angoy or Gov on the coast of Luango, is situate on the mouth of the river of the same name, about 5 leagues N. of Cape Palmerino. The bay lies very commodious for trade, wooding, and watering on the sea-shore. Some parts of the adjacent ground are flat and marshy; but it gradually ascends about 3 miles within land and forms a ridge of hills, on the ascent of which is a town, where a flock of wood is always kept for the supply of foreign ships. The town of Cabenda is seated on the rounded point of the bay, looking towards the west, and the English factory on the south-west of the road, at some distance, N. E. from the town. The Portuguese, Dutch, and other Europeans come to this port for water and provisions. The houses, or rather huts, are built of dirt and reeds. The country round the bay is molly barren, and the people very lazy. They breed no cattle except some hogs, but they have plenty of poultry. The wild beasts are so numerous in the woods that they destroy all of the tame kind. Civet-cats and parrots are numerous. The coast abounds with oysters and the natives fish both on the beach and in the bay with drag-nets, having long canoes that are fixed at equal distances, instead of corks, to keep when any fish is caught. These nets are made of a peculiar root, which, being beaten, becomes flexible like hemp. S. lat. 6°. E. long. 12° 57'.

CABERASA, in Ancient Geography, a town of Asia, in Media, Ptolemy.

CABES, or Gases, in Geography, a town of Africa, in the kingdom of Tunis, situate on a river near a gulf of the same name. N. lat. 35° 40'. E. long. 10° 55'.

CABESA, a town of the island of Cuba; 55 miles N. of St. Jago.

CABESTA Gatta. See Cat's Head.

CABESTAN, or Cabaestang, William De, in Biography, a famous Provençal poet of the 13th century, mentioned by Petrarch, who passed the first years of his life in the castle of the lord of Cabatian; and being enamoured of a lady belonging to the house of Baux, wrote verses in her praise, which were popular. The lady, in order to secure his inviolable attachment, administered to him an herb by way of philtre, which deranged his understanding. He was rescued by an antidote, which converted his love into hatred. In his attendance on Tricline Carbonal, the wife of Raimond de Scalans, he ingratiated himself with her to such a degree as to excite the jealousy of her husband, who privately killed him and barbarously tore out his heart. This he caused to be dressed, and served up to his wife in a dish. After the had partaken of it, she was told what the bad eaten, and died of grief. This event occurred about the year 1215. Moren.

CABESTERRE, in Geography, a name given in the Antilles islands, to that part of the island which looks towards the sea, and which is always refreshed by the trade-winds, blowing from the north to the south-west. The opposite part is called "Baill-terra," being lower and less exposed to the wind, and of course hotter; here the sea is less agitated than in the Cabestreries, and it is consequently better adapted to the anchorage and loading of vessels.

CABESTERRE, or La Marjot, a town of the island of Guadeloupe on the east coast. N. lat. 16° 10'. W. long. 61° 44'.

CABESTES, lies near La Vera Cruz, on the S. W. coast of Campeachy bay in the gulf of Mexico.

CAZONE, a province of the kingdom of Angola in Africa, joining to Aca in the north, and to Lubalo on the south, and having the Coast on the south-east, and Kimbo on the south-west. It is populous, and well stored with cattle and other provisions; and it has a mine of iron on a mountain, called the "iron mountain," which supplies the Portuguese with great quantities of that metal, forged by the natives into a great variety of warlike and other useful implements. The inhabitants are plentifully furnished with water by the Rio Longo, and other smaller rivulets and lakes. Their trees are of a large size, and the bark being flaked with a knife yields an odoriferous resin, resembling wax in colour and consistence, and reckoned very medicinal. The avenue to the royal palace is decorated by a number of palm-trees that are very large and beautiful.

CABIAI, of Buffon, in Zoology, the thick-nosed Tapir of Pennant, the Sus Hydrocharis of Linnaeus, and Cavia Cabesiana of Pallis, &c., which see.

CABIDOS, in Commerce. See CAbidos.

CABIGAR, or Capexh, in Modern History, a tribe of Oriental Turks. Their origin is thus related. A female belonging to the army of Oghuz-Khan was delivered in the hollow of a tree to which she entered; and the infant was adopted by Oghuz, and called "Cabigiar" or the bark of wood, from the manner of his birth. In process of time his poverty became numerous and extended themselves to the north of the Caspian sea. They have retained the appellation of their ancestor, and their country is denominated in Perzia and in Turkish "Defekt Kipchakh." From this country proceeded the armies which first ravaged the dominions polstified in Persia by the Moguls; and they were the first troops which Babar and the first Sultan of the Turks opposed to Tamerlan; but instead of fighting against Tamerlan, they took a part with him and united with the Tartars, whom they regarded as their brethren of one and the same origin, D'Herbelot, Bib. Or.

CABILAH, a tribe of independent and vagabond Arabs, under the conduct of a chieftain. Some Arabian writers reckon 80 of these tribes, D'Herbelot.

CABILLAU, in Ichthyology, a name by which some authors have called the common cod-fish, the morhua and aequulus major of other writers.

CABILLEN, in Geography, a town of the duchy of Courland; 10 miles E. of Goldingen.

CABIN,
CAB

CABIN, or CABIN, is sometimes used for the huts or cottages of savages, and other poor people.

The habitations of the Indians in Virginia are cabins, about nine or ten feet high, which are made after this manner: they fix poles into the ground, and bring the tops of them one within another, and fix them together, the outside of these poles they line with bark, to defend them from the injuries of the weather, but they leave a hole in the top, right in the middle of the cabin, for the smoke to go out; round the outside of their cabins they have banks of earth cast up, which serve instead of doors and beds.


CABIN, a room or apartment in a ship, where any of the officers usually reside. There are many of these in a large ship; the principal of which is designed for the captain, or commander. In ships of the line, this chamber is furnished with an open gallery in the ship's stern, as also a little gallery on each quarter. The apartments in which the inferior officers or common sailors sleep and rest, are usually called births, which fine. The bed-places built up for the sailors at the ship's side in merchantmen, are also called cabins.

The word comes from the French cabine, Spanish cabana, or Italian cappanna, a little house but that from the Greek καμήνας, a stall or manger.

Cabin point, in Geography, a small port-town of America, in Surry County, Virginia, situated on Upper Chipook creek, 26 miles E.S.E. of Petersburg, 87 from Portsmouth, and 339 S.S.W. of Philadelphia.

CABINET, or CABINETS, the most retired place in the finest apartment of a building; set apart for writing, studying, or preferring any thing very precious.

A complete apartment consists of a hall, anti-chamber, chamber, and cabinet; with a gallery on one side.

CABINET is sometimes particularly used for a place at the end of a gallery, wherein are preserved the paintings of the best masters, conveniently ranged, and accompanied with bulbs, and figures of marble and bronze, with other curiosities. In this fene, cabinet amounts to the fame with what is called by Vitruvius, pomerotha. Sometimes there are several rooms defined for this use, which are all together called cabinet, or gallery.

CABINET also denotes a kind of buffet or chest of drawers, partly for the preservation of things of value, and partly as a decoration of a chamber, gallery, or other apartment. These cabinets are made of oak or of chestnut, of inlaid work or Japan, of ebony and of other rare wood.

In the repository of the Royal Society is a Chinese cabinet, filled with the instruments and implems used by the furgoners of that country. The most remarkable are those which are contrived for feratching, picking, and tickling the ears, in which the Chinese take great pleasure.


CABINET, in Gardening, is a little inflated building in manner of a summer-house, built in some agreeable form, and open on all sides; serving as a place of retirement, and to take the fresh air under cover.

According to Miller, a cabinet is a kind of faloon placed at the end or in the middle of a long arbour. It differs from an arbour, which is long, in form of a gallery, and arched over head; whereas the cabinet is either square, circular, or in cants, making a kind of faloon.

CABINET, in Natural History. This term is applied with some latitude to any small or select collection of natural curiosities, without regarding whether the articles it contains be contained within a cabinet or not. Thus, for instance, it is not unfrequent with us to speak of cabinets of animals, cabinets of birds, of fishes, reptiles, and other similar articles, as a mode of expressing such an assemblage of natural history as may not be of sufficient importance to deserve the epithet of a museum.

The word cabinet in its usual acceptation with the naturalist is not, therefore, confined solely to the boxes, presses, or chests of drawers, in which articles of curiosity are contained, but implies at once both the repository itself, and the articles arranged in it.

So much depends upon the fancy, taste, or judgment of the collector in the formation, or, as it is sometimes denominateed, building, cabinets for the reception of articles of this description, that no explicit directions can be given for this purpose with propriety. The most natural object to be considered is the compactness, of the drawers and chest, according to the size of the articles to be deposited in them, in order to compose as much as convenient, within the smallest compass in which they can lie without injury to each other, and at the same time be seen and examined with ease.

Cabinets of fossils, shells, and coral have the drawers sometimes divided for this purpose into small compartments, by means of an inner frame work, that lets into the bottom of the drawer; but trays of various sizes made either of card or palleboard have a much neater appearance, and are preferred by many as being more commodious, and more easily fitted from one part of the drawer to another, as the addition of new acquisitions in any particular tribe or genus may require. Nothing can be more desirable than to have the cabinets well made, that the drawers may slide with perfect ease in their proper receptacles in the press. The drawers should fit to close, when shut up, as to preclude the entrance of dust of any kind. The cabinet itself should be also placed in a dry situation, as there are few articles of natural history that are not affected in a greater or less degree by an excess of damp, or even heat.

The construction of an entomological cabinet depends less on the taste of the collector, in the present day, than the preceding, except so far as relates to the elegance or external embellishment of the cabinet, or the excellence of the workmanship. The drawers are uniformly made shallow, the bottom of each is lined with cork, and the top is covered with glass, through which the insect may be seen without being exposed to the air, or accidents that would arise from their being touched by the incautious spectator.

Cabinets of insects are built of various sizes, from those which contain ten or a dozen drawers to others that include above an hundred. They are usually of mahogany, but it is immaterial whether they be made of mahogany or walnut; some have them of cedar, but seldom of deal, or any other wood of a soft texture. The drawers may be from fifteen to thirty inches in length, the frame, or nearly the fame in breadth, and about two or three inches in depth. The cork with which the bottoms are lined must be chosen as free from cracks and holes as possible; it should be also glued into the drawers to prevent its warping, and be filed or cut very level; and after this the irregularities on the surface of the cork should be rubbed down with pumice-stone, till the whole is rendered perfectly smooth, before the paper is pasted over it. The paper should be of a fine smooth and even grain, but neither very flout, nor highly flattened with size, lest it should mar the points of the pins, when placing the insects in the drawers. The top of every drawer must be covered with a plate of glass, to prevent the admission of dust or air. This plate is usually fitted into a frame of the fame size as the drawer, and is made either to slide in a groove, or let in on a rabbot; the latter contrivance is much the best, because in sliding the glass along the groove, if any of the pins happen to stand high as to touch the frame-work.
the cork, with which the drawers are lined, should be well impregnated with a solution of corrosive sublimate mercury, in a fated saturated solution of crude ful-ammoniac in water. (an ounce of which will be sufficient to dissolve twenty scruples of the sublimate). This may be tried, since it has been strongly advised, although we believe the precaution needless. Mr. Druy adopted another plan: he pounded a quantity of crude verdigrise with common bees wax, and spread a thin layer of it between the bottom and the cork, in those drawers which were designed for the reception of his more delicate insects. We are, however, of opinion, that a solution of alum in water, washed either over the cork or paper of the drawer, would answer the same purpose, and be attended with less trouble. See article Entomology.

CABINET OF MEDALS. See Medals.

Cabinet is also used in speaking of the more select and secret councils of a prince or administration: thus we say, the secrets, the intrigues of a cabinet. To avoid the inconveniences of a numerous council, the policy of Italy and practice of France have introduced cabinet councils; a remedy worse than the disease. King Charles I. is charged with first establishing this usage in England. Besides his privy council, that prince erected a kind of cabinet council, or junto, under the denomination of a council of state; composed of archbishop Laud, the earl of Strafford, and lord Collington, with the secretaries of state. Yet some pretend to find the substance of a cabinet council of much greater antiquity, and even allowed by parliament, who anciently felt a quorum of persons most condol’d in, without whose presence no arduous matter was to be determined; giving them power to act without consulting the rest of the council. As long since as the 28th of Henry III. a charter passed in assent of the ancient rights of the kingdom; which provided that four great men, chosen by common consent, were to be conservators of the kingdom, among other things, should see to the disposal of moneys given by parliament, and appropriated to particular uses; and parlaments were to be summoned as they should advise. But even of these four, any two made a quorum; and generally the chief justices of England and chancellor were of the number of the conservators. Math. Par. 28 Henry III.

In the flirt of Hen. VI. the parliament provides, that the quorum for the privy council be six or four at least; and that in all weighty considerations, the dukes of Bedford and Gloucester, the king’s uncles, should be present; which seems to be erecting a cabinet by law.

CABIRA, afterwards called Diospolis, and since Schafopolis, in Ancient Geography, a town of Pontus, fourth-cast of Amasia, upon the river Iris. Mithridates built a palace in this city, where he had also a fish-pond, and in its vicinity parks for chase, and, according to Strabo, mines. This city became memorable for the defeat of Mithridates by Lucullus. When Pompey took possession of it, he gave it the name of "Diospolis," and the queen Pythodora, widow of Polemon, named king of Pontus by Antony, called it "Seballe," or "Schafopolis," i.e. the city of Augustus, in honour of that prince.

CABIRI, in Antiquity, certain deities worshipped more especially by the Samothracians, and in the Isle of Imbos, and some other parts of Greece. These Cabiri were originally Syrians or Phcenicians; and we are chiefly indebted to the fragment of Sanchonathen, recorded by Eusebius in his "Preparatori Evangelica," for the information, scanty and dubious as it is, which has been transmitted concerning them. From him we learn, that they were the sons of Sydyc, and the same with the Dioscures, Corybantes, and Samothracians; that they first disco-
vered the art of building ships; that from the time of Cronus (Saturn) their descendants navigated the sea on rafts or vessels of their own construction; and that they landed on mount Causses, where they consecrated a temple. It is also related, that Cronus gave the city of Berytus to Neptune and the Cabiri. Sanchoniathon further says, that these sons of Sydyc were eight in number; but he mentions only one of them by name, viz. Alexeius, who was surnamed Eufmus, from Ευφυς, signifying the eighth. He was the god of health, and ruler of life. Bochart supposes, that this Sydyc was Jupiter: Cumberland in his "Sanchoniatho's Phenician History," (p. 173, &c.) maintains, that he was Sem, the son of Noah; Shuckford supposes, (Connection, &c. vol. i. p. 213,) that he was Mizarim, the son of Ham, (Gen. x. 6,) or Menes, who settled in Egypt about the 15th year of Nimrod, A. M. 1772, according to him, or 2188 B. C. according to Blair's Tables. According to Panfalias (l. i. p. 751.) the original Cabirite divinity was Prometheus. The learned Bryant (Analyis of Anc. Myth. vol. ii. p. 460.) concurs with those who are of opinion, that Sydyc, or Sadie, was the patriarch Noah, and that the name by which he is called, or Sadie, corresponds to the character given of him in the book of Genesis, ch. vi. 9. He was Σαδίς, Sadie, a just man and perfect in his generation. All science, and every useful art were attributed to him; and through his sons they were transmitted to posterity. He supposes that the Cabiri were the family with the Curetes, Corybantes, Telamones, and the Idæi Dæthyli of Crete. However, in treating of them, great confusion has arisen from not considering that both the deity and priest were comprehended under the same title. Hence it has happened, that the appellation of Cabiri has been used by the ancients indifferently, to signify the gods in whose honour certain mysteries were instituted, the initiates of these mysteries, and the principal hierophants who officiated in them. From the account that has been already given from Sanchoniathon of the origin of the Cabirite deities, it is reasonable to imagine, that they were persons eminently distinguished for their exploits, and for the invention of arts useful to mankind; and that on this account they were deified by the Phenicians; and we may easily conceive, that the navigators who first passed from Phenicia into Greece introduced there the worship which they had rendered to the Cabiri, as the inventors of navigation. To this purpose Diódoros Siculus very justly observes, (lib. i. p. 144,) that the Greeks worshipped for their gods some heroes and great men, that had formerly been famous in Egypt, whole lives, or at least short memoirs of them, had been written at first in a plain and simple manner; but succeeding writers embellished the accounts given of them, by intermixing with them various fictitious Diodorus ascribes to the Cabiri the invention of fire, and the art of manufacturing iron. Hence it is, that on a medal of Gordian, and another of Firmus Simonis Trascullinus, both struck at Carthage, where the Cabiri were worshipped, we find the figure of a Cabirus on a column, holding a hammer in his right hand. For the fame reason, Herodotus (l. iii. ob. serves, they were represented like Vulcan. We need not wonder, if we consider the various useful arts that were ascribed to these deified personages, that they should be in general honoured. The Phenicians, Syrians, Egyptians, Greeks, Cypriots, Phrygians, Etruscans, Latins, Carthagians, and almost all the ancient Pagan, manifested the most profound veneration for the Cabirite mysteries. The name by which they are called denotes the high estimation in which they were held; for, instead of deriving it, as some have done, from the nymph Cabira, or from mount Cabirus in Phrygia, its etymology may more probably be sought in the Hebrew, or Phenician language, in which, the word "Cabir" denotes great and powerful; and, accordingly, they are described by Cassius Herminius (see Macrob. Sat. i. iii. c. 4. p. 376.) as "the great, beneficent, and powerful Gods." We have already observed, that the honours they received seem to have originated with the Phenicians, and by their navigators the worship of these deities was introduced into the island of Samothrace, where they landed before they passed over to the continent. At Memphis, in Egypt, they had a famous temple, which was held to be sacred, according to Herodotus, (l. iii. c. 27,) that no person, excepting the priests, was suffered to enter within its walls. In several cities of Syria the worship of these deities prevailed. At Cabira in Pontus, they had one of the most magnificent temples in the world. In Phrygia also, and Cilicia, there are evident traces of the same kind of worship. The Cabirite rites were also practised at Imbros and Lemnos; and they prevailed likewise in Greece, and particularly at Theba, in Bocotia: and as their chief province related to the sea and shipping, they were more especially imployed by mariners for success in their voyages. When the worship of the Cabiri was introduced from Phenicia, or Egypt, into Greece, it underwent various modifications and changes, as the Greeks were too proud to acknowledge themselves indebted, even for their superstition, to strangers. Accordingly, they altered the names of their gods, and disfigured their origin. By some of the Greek writers, they are represented as the sons of Jupiter and Caliope; by others, as the sons of Jupiter and Electra, or of Jupiter and Leda. Some refer Jupiter himself, and Bacchus, to the class of Cabiri; and others say they were the sons of the Sun and Minerva: others pretend that their mother was the nymph Cabira, the daughter of Proteus, and their father, Vulcan; and it is thought, that one of their sons is represented on the medals of Thessalonica, under the name of CABEIPOC, holding in one hand a hammer, such as Vulcan is represented with on the ancient monuments, and dressed, like him, with a cap on the head. The worship of Vulcan and his sons was established in Egypt, in the isles of Lemnos, and in other places, where they were honoured under the name of Cabiri, for having invented corn and the manufacture of it. As for particular names which the Greeks gave to the Cabiri, those which most frequently occur are Cablor and Pollux, the sons of Jupiter and Leda. Thefe Greek Gods were represented as Cabirian deities on some of the Greek medals of Marcus Aurelius and Lucius Verus. There were also known by the names of Iason and Dardanus, the sons of Jupiter and Electra; and also by those of Alcon and Erimoedon, the sons of Vulcan and Cabira, to whom is ascribed a son called Camillus, or Cudimillus, &c. Mercury. According to Ciceron, three others, called Trisapocerus, Eubuleus, and Dysnuvis, were the sons of Jupiter and Proserpine. Minucius, a Phenician author, has, according to Josephus, mentioned three others; viz. Axieros, said by some to be Ceres, and by others Jupiter; Axilocheria, or Proserpine; and Axiocheros, or Pluto. The nature of the mysteries of the Cabiri, and the rites of which they consisted, are not ascertained. They were disclosed only to the initiated, and penalties were annexed to the crime of divulging them. The mysteries of Ceres Cabiria in Bocotia were the same with those of the Cabiri in Samothrace; and it has been said by Clemens Alexandrinus, in speaking of the worship of these deities among the Etru-
enochrians, and others, celebrated them in the night, and, as it is related, with great indecency; and to this circumstance it is owing, that they have transmitted no written account of them to posterity. The "phallos" is said to have been one of their symbols in the Cabirian mysteries of Samothrace. M. de St. Croix in his "Memoirs concerning the sacred Religion of ancient Nations," (Paris, 1784), remarks, that the origin of the use of this symbol was as follows. Cadmus, the youngest of the Cabiri, having been killed by two of his brothers, who cut off his privities and flid to mount Olympus, where they buried them; this Cabir's death was commemorated by that symbol, and by many various expressions of grief on the part of the initiated. This author, combining the above relation of Herodotus with a passage in Pausanias, where the mysteries of the Cabiri are said to have been founded on a "precept that was made to them by Ceres," concludes, that this "precept," which Pausanias did not dare to specify, was no more than the obscure representation of the mutilated parts of Cadmus; and this, he adds, was the venerable object that was committed to the custody of the Vealans in after-time, as a sacred pledge of the safety of Rome, whether the Samothracian priests, who to a refuge in Italy, carried the religious rites and mysteries of the Cabiri. Whether this account be true or not, it is certain that the "phallos" was introduced under some form or name or another into the religious mysteries of ancient nations, and that the celebration of these mysteries was accompanied with many indecrous rites. Under the appellation of Cabiri, the ancients comprehended diversities of each sex, of all ages, of every rank and condition, civil, political, maritime, and infernal, to which they appropriated various attributes. To some of the Cabiri, who were the inventors of navigation, they ascribed the discovery of iron; to others, the origin of laws, letters, and writing; and to others again the discovery of various modes of incantation and magic, the medical use of plants, &c. &c. The worship that was paid to them in different places referred more directly or indirectly to those several attributes. Such was the estimation in which these deities were held in the remote ages of antiquity, and afterwards by the Greeks under various appellations, by which they were distinguished, that princes and personnages of rank referred to Samothrace in order to be initiated into their mysteries. Accordingly, we find that Cadmus, Orpheus, Hercules, Caifer and Pollux, Ulysse, and other heroes of the Trojan war, Philip the father of Alexander, and many others, made a voyage to this island, probably, under a notion that they might derive beneficence from the Cabirian deities in tempests and perilous voyages. Such was the veneration in which the Cabiri were held in the island of Samothrace, that it was thought an act of irreverence even to pronounce their names. Those who were admitted to the sacred ceremonies performed in honour of these deities used to afflict in a wood, which became a place of refuge for offenders, and was more respected than even the temple of Delphi or the island of Delos. To this island, Peres, king of Macedon, fled for refuge, and took up his habitation in a temple of Caesar and Pollux, hoping that the Romans would not profane a sanctuary revered by all the nations of the world; and, indeed, the Romans did not make any attempt upon his life or person so long as he continued there. Of all the oaths that were in use among the ancients, that by the Gods of Samothrace was deemed the most sacred and inviolable. Those who were found to have falsified this oath, were looked upon as the curse of mankind, and perjuries devoted to destruction. Of course, these mysteries were highly respected, and care was taken that they should not be revealed. With this view, the priests had a language peculiar to themselves, which was not understood by the people. The Corybantes were the ministers of these mysteries, not only at Lemnos and Imbros, but through the whole of Phrygia. For a more ample account of the various opinions of the fabulous ages, with regard to the names, origin, number, attributes, mysteries, and worship of the Cabiri, the reader, who is desirous of further information, may consult the writings of Clemens Alexandrinus, and Dechel. See Ceres, Eleusis, and Mysteries. See also Corybantes, Curetes, and Dioscuri.

CABIRI, in Ancient Geography, a people who inhabited the vicinity of mount Ida. Strabo says, that in his time, many supposed them to be the same with the Curetes. See CABIRI, supra.

CABIRIA, a surname of Ceres, who was the principal Cabirian deity: she had a sacred grove under this name in Boeotia.

CABIRIA, Ks^s^vms, religious feasts instituted in honour of the gods Cabiri. They were celebrated at first at Lemnos, afterwards adopted by the inhabitants of the islands of Samothrace and Imbros, and from thence passed into Greece to Athens, and particularly to Thebes, where they became famous.

These feasts were very ancient, and prior even to the time of Jupiter; who is said to have restored them: they were held by night. Children above a certain age were here consecrated: which consecration was supposed to be a preventive against all dangers of the sea, &c.

The ceremony of consecration called δευμετω, or δευμετωτ, q. d. enthronizing, consisted in placing the initiated youth on a throne, the priests dacing round him: the badges of the initiates were a purple girdle or scarf, and a crown of olive. When a person had committed any murder, the cabiria gave him an asylum.—Melethus is very particular in the proof of each of these points.

CABIRIDES, nympha, who were the daughters of Vulcan and Cabira.

CABIRUS, in Ancient Geography, a mountain of Asia Minor, in Phrygia.—Alio, a river of Asia, in the territory of the Suevi, at the mouth of which was good anchorage.


CABLE, in Navigation, a thick, long, three-strand rope, ordinarily of hemp, serving to hold ships firm at anchor, and to tow vessels in large rivers. In Europe, the cables are commonly made of hemp; in Africa, of long straw, or rushes called boja; and in Asia, of a peculiar kind of Indian grass.

The word cable comes from the Hebrew word chevel, cord. Du-Cange derives it from the Arabic, balb, cord, or barata, vincere: Menage, from caputum, or capabulum; and that from the Greek κατσαρον, or the Latin canesus.

The term cable is sometimes also applied to the cordage used to raise heavy loads, by means of cranes, wheels, and other like engines: though in strictness, cable is not to be applied to ropes of less than three inches in circumference. Every cable, of whatsoever thickness be it, is composed of three strands; each strand of three twines; and each twist of a certain number of cuborns, or threads of rope yarn, more or less, as the cable is to be thicker or smaller.

Every merchant-veffel, how small soever, has three cables; viz. the main or master-cable, which is that of the chief anchor,
anchor, called the fleet-cable; and the two bowers, beat and small. The ordinary length of the great cable is 120 fathoms or braces.

To make a cable: after forming the strands, they use flaves: which they first pass between the strands that they may turn the better, and be interwoven the more regularly together. And to prevent any entangling, a weight is hung at the end of each strand. The cable, being properly twisted, neither too much, so as to become stiff, nor too little, so as to be weakened, is untwisted again three or four turns, that the rope may the better retain its shape. The usual allowance for the diminution of length by twining, is one-third of the whole; so that for a cable of 120 fathoms, the rope-yarn shall be 180 fathoms long.

The number of threads which each kind of cable is to be composed of, is always proportioned to its length and thickness; and it is by this number of threads that its weight and value are ascertained. Supposing then, the lengths to be equal, the number of threads and the weights will be as the areas of their bases, or, which comes to the same, as the squares of their circumferences. Having then the weight and number of threads of any one cable, we may easily calculate the following table. (See Aubin's Marine Dictionary.)

<table>
<thead>
<tr>
<th>Circumference</th>
<th>Threads</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Inches</td>
<td>48</td>
<td>102 Pounds</td>
</tr>
<tr>
<td>4</td>
<td>77</td>
<td>308</td>
</tr>
<tr>
<td>5</td>
<td>121</td>
<td>484</td>
</tr>
<tr>
<td>6</td>
<td>174</td>
<td>693</td>
</tr>
<tr>
<td>7</td>
<td>238</td>
<td>952</td>
</tr>
<tr>
<td>8</td>
<td>311</td>
<td>1,284</td>
</tr>
<tr>
<td>9</td>
<td>393</td>
<td>1,572</td>
</tr>
<tr>
<td>10</td>
<td>485</td>
<td>1,930</td>
</tr>
<tr>
<td>11</td>
<td>599</td>
<td>2,392</td>
</tr>
<tr>
<td>12</td>
<td>699</td>
<td>2,796</td>
</tr>
<tr>
<td>13</td>
<td>831</td>
<td>3,284</td>
</tr>
<tr>
<td>14</td>
<td>952</td>
<td>3,868</td>
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<td>4,372</td>
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<td>16</td>
<td>1,244</td>
<td>4,972</td>
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<tr>
<td>17</td>
<td>1,404</td>
<td>5,606</td>
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<tr>
<td>18</td>
<td>1,575</td>
<td>6,296</td>
</tr>
<tr>
<td>19</td>
<td>1,744</td>
<td>7,016</td>
</tr>
<tr>
<td>20</td>
<td>1,943</td>
<td>7,772</td>
</tr>
</tbody>
</table>

Several statutory laws respecting the manufacture of cables have been made in the reign of his present majesty, G. o. III. See 26 Geo. III. c. 56. It has also been enacted, that commanders of vessels belonging to British subjects, having on board foreign made cordage, shall make entry thereof at their arrival into any British port; and that no one, making default herein, all such foreign cordage shall be on board shall be forfeited to his majesty; and that for every such offence, forfeit the sum of 20s. for every hundred weight thereof.

In the French marine, the circumference of the largest cable is one twenty-fourth part of the extreme breadth of the ship; or half the breadth in feet will be the circumference in inches. Thus, the circumference of the largest cable of a ship, whose extreme breadth is 52 feet, will be 16 inches. The length of a cable is 120 fathoms, each 5 French feet. The weight of one fathom of cable in French pounds is nearly equal to one-tenth of twice the square of the circumference; and, consequently, the weight of the whole cable will be nearly equal to twenty-four times the square of the circumference. The weight of an anchor is half the weight of the cable to which it belongs.

**Cable, lit the.** See Bits.

**Cables, Bower,** those belonging to the beat and small bower anchors, and are named accordingly.

**Cable, clinch a,** is to run it through the hawse-hole and the ring of the anchor, three or four fathoms in length; then haul the bight up in the head, and pass the end of the cable over the bight, and through the ring, between it and its own part; then pass the cable bends, and crotch them with strands, well grounded, one at the end, and the other about one foot from the end; and be careful not to form the clinch larger than the ring of the anchor.

**Cable, coil the,** to make it up in a circular or elliptical form, for the convenience of flowing it; each complete round or turn of the cable is called a fake, and one range of fakes along-side of each other is called a tier. There are generally from five to seven fakes in a tier, and three or four tiers in the whole length of a cable; but this depends on the length of a fake, and the number contained in a tier. Several authors, and particularly Melch. Hutchinson and Gower, have recommended that all cables should be coiled the same way they bit, or the way they run round the windlass, and their tiers should be on the side opposite to that on which they lead. The beat bower, which is in general the working cable, should lead foremost up the hatchway, then the small bower, and, after all, the sheet, which being the least wanted, can be made up snug round the fore part of the hatchway, out of the way. Should new cables come immediately from the rope-walk, let them be coiled down into the craft that is to bring them on board the same way they are to be coiled on board. A cable generally kinks from more turns being forced into it by the coiling than it naturally had; the kinks may, however, be avoided, either by coiling the cable against the fun, or with the fun, and the end taken through the coil, and the cable coiled down in the tier the way required. It should be a rule, in coiling cables, never to lay out near the hatchway, but to keep that part of the tier as low as possible, that the bends may have sufficient room to unspirt. Were all cables first coiled down from the rope-walk against the fun, they would be better adapted to coil on either side of a ship, for a cable coiled against the fun will more easily reversé, and have less kinks in it than a cable coiled with the fun.

**Cable, cut the.** When a ship is riding at anchor in an open bay or road-head in a gale of wind, it many times becomes necessary, for the preservation of the ship and crew, to cut the cable with a hatchet at the hawse holes or at the bits, when it cannot be purchased, and stand out to sea, under any convenient sail that it may be possible to set. This may be also necessary when compelled to fly from or pursue an enemy. If a ship parted her cable, the insurance would be lost. See Slip the Cable.

**Cable, elastic.** See Coir.

**Cable-laid,** any rope laid in the same manner as a cable.

**Cable's length,** is 120 fathoms, each 6 feet. The distance between two adjacent ships of war, when formed into the line of battle, is appointed to be one or more cables' length, according to circumstances. The method of keeping the ship in its proper position with respect to the one next a head, is to calculate the angle which the whole or any particular portion of the main-mast of that ship would subtend at the proposed distance. Then, if the angle observed by a quadrant is the same as that by calculation, the ship is in her proper station; if greater, she is too far a-head, and therefore some fault must be taken in; but if less, the ship is too far astern, and more fault must be set in order to regain her station. If the main top-gallant truck be brought to coincide with a mark, the same height above the water as the observer, this angle is found as follows: from the logarithm of
of the given height, its index being increased by 10, subtract the logarithm of the elevated distance, the remainder will be the log. tangent of the required angle. But if there is no fixed mark, and in that case, the angle subtended by the distance between the truck and the water to be observed, the measurement of this angle may be found by calculation as follows: from the height of the truck above the water subtract the height of the observer; from the log. of the remainder, its index being increased by 10, subtract the log. of the difference; the remainder will be the log. tangent of an arch; and from the log. of the height of the observer, its index increased by 10, subtract that of the difference; the remainder will be the log. tangent of an arch; the sum of these two arches will be the angle required.

Example. Let the elevated distance between two adjacent ships be one cable's length, or 720 feet, the height of main-top-gallant trucks 680 feet above the water 100 feet, and the height of the observer's eye 24 feet; required the angle subtended by the mark?

<table>
<thead>
<tr>
<th>Height truck</th>
<th>680</th>
<th>log. 2.85733</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height observer</td>
<td>24</td>
<td>log. 1.3821</td>
</tr>
<tr>
<td>Difference</td>
<td>656</td>
<td>log. 2.22011</td>
</tr>
<tr>
<td>Distance</td>
<td>720</td>
<td>log. 2.85733</td>
</tr>
</tbody>
</table>

Arch tangent 0.5252

\[ \frac{120}{50} \]

Angle required 54° 45'

See also Dr. Mackay's Navigation, p. 224.

Cable, link wearing of a, is an operation performed for preserving it in rocky and stony ground, or defending it against ice. For this purpose chains are tied round cables in the following manner. Take three chains, each about 15 fathoms in length, and all of an equal size, and in thickness proportioned to the purpose to which they are adapted. Let these be wound round the cable, so that they may project sufficiently to fill the greatest part of the friction, one end of them being fastened to the ring of the anchor, and each chain being from thence wormed round its respective hollow or channel of the cable, so as not to prevent its stretching. Fatten the other ends of the chain to the cable. The chains need not be very heavy; but the links should be short, because they will thus be more pliant, and worn more easily. These chains will effectually guard the cable against the chafing of the rocks, and they may be put on in a few minutes, so that it is not necessary to have them fitted on but when they are likely to be serviceable. As the weight of the three chains, even for a large cable, will not exceed 500 pounds, the only remaining difficulty is that which arises from the smallness of the hawse-holes; in order to obviate this, the holes may be enlarged; and with the additional aid of a boy or spare man at the head of the cable, to call off the chains as they come up, and hand them in above, every inconvenience will be removed. But if it should require a few minutes more to weigh an anchor so secured than a common one, this can be no argument against a measure that tends to preserve and ensure the safety of the vessel and of the ship's company. In high latitudes, where ice may cut or damage the cables, while riding at anchor, the use of three other chains such as the preceding, but not more than five or six fathoms in length, may be recommended. These may be wormed round the cables in the same manner at the surface of the water, and will be an excellent means of guarding them from the pressure of the ice, so as to prevent its either wounding them or chafing them quite afunder.
CABLING, in Architecture, the figure of a flatt, or reed, either plain or carved, in resemblance of a rope, or a rush, wherewith a third part of the flattings of a column are sometimes filled up; hence called cablurings.

There are also cablings in relievo without flattings, especially on certain pilasters, as in the church of Sapienza at Rome. See FLUTES.

CABLISH, Cablicia, in the Forrest Law, denotes brush, or bowrose wood; though Seldman takes it more properly to signify trees, or branches, thrown down by the wind; from the French cablis, or bois cablis, which denotes the same.

CADO, in Geography, a kingdom of Africa, in Nigeri, situate to the south of the Rio Grande, and near the sources of the Cansamanka, about 150 leagues from its mouth. Little is known concerning it; but some voyagers affirm that the king is rich and powerful, and that in time of peace he keeps 7000 men well armed, in order to command due respect from his neighbours.

Cabo Cofo, or Cape Cofo, a cape and factory of Africa, on the Gold coast. N. lat. 5° 16'. W. long. 2° 30'.

Cabo de Cruz, a bold point of land on the south side of the island of Cuba. N. lat. 19° 57'. W. long. 78° 28'.

Cabo de St. Juan, the north-easternmost point of the island of Porto Rico. N. lat. 18° 30'.

CABOCHED, Cabroshed, or Cabosshed, formed from the obsolete French caboches, from caput, head, in heraldry, is where the head of a beast is cut off behind the ears, by a section parallel to the face; or by a perpendicular section, in contradistinction to capped, which is done by a horizontal line; besides that it is farther from the ears than caboring. The head in this case is placed full-faced, or affrontee, so that no part of the neck is visible. This bearing is by some called Trunked.

CABOCHON, in Gemology, the name given by Argenville to the Italian Patella equus; which see.

CABOCLIES, in Modern History, a name given in the Well Indies by the Portuguese to those produced between America and Negroes.

CABOLITE, in Ancient Geography, a people of Asia, placed by Ptolemy in Parapamisus.

CABOMBA, in Botany. See NECTUS.

CABOT, Sebastian, in Biography, an eminent navigator, the son of a Venetian pilot distinguished by his skill in the same art, and often resident in England, was born at Bristol about the year 1477, and instructed by his father in those branches of mathematical science which were necessary for forming a skillful marman. Before he had attained the age of 17 years, he made many trips to sea; thus gaining an acquaintance with the practical part of navigation to the knowledge of its theory. In his first voyage of any importance, he accompanied his father for the discovery of unknown lands, and particularly for exploring a north-west passage to the East Indies. John Cabot, encouraged in this attempt by the discoveries of Columbus, who returned from his first expedition in 1493, obtained, in 1495, letters patent from king Henry VII. empowering him and his three sons to discover, conquer, and settle lands then unknown, in recompense of which they were to be invested with many privileges. The king, however, referred to himself one-fifth part of the next profits, and refrained them to return from their voyage into the port of Bristol. Accordingly in the following year he prepared for his expedition, and

obtained the king's permission to undertake six ships of 200 tons burden and under, in any harbour of the realm, and to engage a sufficient number of mariners. His majesty was at the expense of fitting one ship at Bristol, and the merchants of that city and of London added three or four small vessels, freighted with marketable commodities. With this fleet John Cabot and his son Sebastian set sail in the Spring of 1497, and proceeded till the 23d of June, when they discovered the island of "Baccalao," so called from the fish which they found in great abundance on its coast, but now known by the name of Newfoundland. Another adjoining island they called St. John, probably from the Saint's day on which it was discovered. On this island, as they supposed it to be, which was the south-west part of Newfoundland, they found inhabitants who were clothed with the skins of beasts, and who used bows, arrows, pikes, darts, wooden clubs, and flings. Three of these natives were brought with them to England. It is supposed, however, that Sebastian had made some voyages of discovery in the reign of Henry VII., without his father; and that in some of these he failed, as far north as 67° and a half, and was prevented from proceeding further by the mutiny of his crew. After the discovery of Newfoundland, Cabot and his son failed down to Cape Florida; and on their return to England they were well received, as they were the first navigators who had actually seen the continent of America; Columbus not having observed it till the following year. During the succeeding period of 20 years, there is a chasm in the history of Sebastian's transactions; nor is it certain when or where his father died, though he probably terminated his life in England, to which he appears to have been much attached. In the 8th year of the reign of king Henry VIII. we find that Sebastian Cabot had formed an intimate connection with Sir Thomas Per, then vice-admiral of England; and that he had obtained, by his interest with the king, a good ship for the purpose of prosecuting his discoveries. It seems to have been at this time his intention to have sailed by the south to the East Indies, and with this view he sailed first to Brazil; but disappointed in his purpose through the timidity of his coadjutor, Sir Thomas Per, as Hakluyt affirms, he directed his course to the islands of Hispaniola and Porto Rico, and having trafficked here for some time, he returned to England. Thus disappointed in his views, he left England and removed to Spain, where he was very respectfully received and appointed pilot-major, for the purpose of reviewing all projects of discovery, which were, at that period, numerous and important. In the year 1524, many opulent merchants entered into a treaty with him, and engaged to defray the charges of an expedition to the Moluccas, or Spice Islands, by the new-found passage of Magellan. Accordingly he set sail from Cadiz with four ships, in April 1525; and proceeded first to the Canaries, then to the Cape Verd islands, and afterwards to Cape St. Augustine, and to the island of Pato, or Geete. At the bay of All Saints he was liberally supplied with provisions, for which he made a very ungrateful return by forcibly carrying away four of the principal persons of the island. He then proceeded to the river La Plata, and landed on a desert island Martin Mendoza, his vice-admiral, Captain Francis de Rojas, and Michael de Rojas, where he left them because they had ventured his conduct. Being prevented by a mutiny among his men and by scarcity of provisions from prosecuting his voyage to the Spice Islands, he failed about 30 leagues up the river La Plata, and found an island which he called St. Gabriel, about a league in compass and half a league from the continent towards Brazil; and having discovered about three
three leagues higher a river which he named St. Salvador, and which, being very deep, afforded a good harbour, he brought up his vessels and unloaded them. Here he built a fort, and advancing with boats 30 leagues higher, he found another river, called Zarcarama, and constructed on the banks of it, as the inhabitants were intelligent and not unfriendly, another fort, called by himself Santi Spiritus, or of the Holy Gholl, and by his followers Cabo de fort. He afterwards discovered the shores of the river Parana, with several islands and rivers, and at length arrived at the river Paraguay, where he found people tilling the ground; a circumstance which had not before occurred to him in that part of the world. In a conflict with the Indians, by whom he was opposed, he killed many of them, but 27 of his own men were slain, and three taken prisoners. During this winter he fell in with James Garcia, who had been dispatched from Galicia for the purpose of making discoveries, and having returned together to the fort of the Holy Gholl, they sent messengers to Spain. The two persons that were deputed by Cabot gave a very favourable account of the countries adjoining to the river La Plata which he had subdued, and produced gold, silver, and other valuable commodities, as testimonials to their commander's good conduct. At the same time they demanded a supply of provisions and ammunition, as well as other articles adapted to the purposes of commerce, together with a recruit of seamen and soldiers. The merchants, however, who had fitted out Cabot's squadron, were unwilling to comply with these requisitions, and chose to surrender their rights to the crown of Castile. But the king delayed the necessary preparations so long, that Cabot, who had been five years employed in this expedition, and who was tired with waiting for necessary supplies, determined to return home. Accordingly he embarked his men and effects on board the largest of his ships, leaving the rest behind him; and arrived at the Spanish court in the spring of the year 1531. In the mean while prejudices had been excited against him, on account of the rigour with which he had treated the Spanish mutineers, and because he had not proceeded to the Moluccas, so that his reception was not favourable. However, he retained his place, and continued in the service of Spain for many years; till at length, for reasons with which we are not acquainted, he resolved to return to England. This took place towards the latter end of the reign of Henry VIII. at which time he resided at BristOL. In the commencement of the following reign he was introduced into the protector, lord Somerlet, and by him to king Edward VI. who took great pleasure in his conversation, and granted him, in 1549, a pension of 16,135. 4d. a year; an annuity which was allowed him, according to Hakluyt, as grand pilot of England. From this time he was highly favoured by the king, and consulted upon all commercial matters. In May 1552, the king granted a licence, together with letters of safe conduct, to such persons as were willing to embark on board three ships, destined for exploring a passage by the north to the East Indies. The enterprise was undertaken by the advice and recommendation of Cabot, then governor of the company of Merchant-venturers; and he furnished necessary directions, which evinced both his wisdom and integrity. For his trouble and charge in this business, his Majesty presented him with a gratuity of 200l. This expedition was entrusted to the command of Sir Hugh Willoughby, and it produced the discovery of the important trade to Archangel, which fee. Cabot was also appointed by royal charter governor for life of the Russia company, in whose concern he took a very active part; and in 1555 letters patent were granted by which their Majesties, Philip and Mary, granted him an annuity of 160L 13s. 4d. during his life. In April 1556, he appears to have retained the habitual arbour of his mind for the prosecution of discoveries; for he visited Mr. Burroughs at Gravesend on board his small vessel designed for Russia, and gave a liberal entertainment to the sailors on this occasion. This is the last circumstance that is recorded concerning him; and he is supposed to have died in the following year, when he had probably attained the age of nearly 80 years. He was a skillful navigator, and possessed in his time a very high reputation. To his capacity, integrity, and zeal, tacky was very much indebted. The variation of the compass was first observed by him. See Variation. Cabot published a large map, which was engraved by Clement Adams, and hung up in the privy gallery at Whitehall; and on this map was inscribed a Latin account of the discovery of Newfoundland. He also published a work entitled "Navigations delle Parte Settecentionali," printed at Venice in 1563, fol., and his instructions above referred to were printed in Hakluyt's voyages. Biog. Brit.

CABOT, in Geography, a township of America, in the county of Calcasie and state of Vermont, situate on the height of land between lake Champlain and Connecticut river, about 17 miles from the 13 miles falls in this river, and containing 1202 inhabitants.

CABOT, in Ichthyology. Sec Corax.

CABOURG, in Geography, a town of France, in the department of Calvados, and district of Caen, ten miles N. of it.

CABRA, a town of Spain in Andalusia, situate at the foot of a mountain, near the source of a river of the same name, containing besides a church and six convents, a college for the study of philosophy and divinity; 25 miles S.E. of Cordova.

Cabra, an inconsiderable town of Portugal, in the province of Beira; 20 miles E.S.E. of Viseu.

Cabra, or Karr, a town of Africa in the kingdom of Tombuctoo, situate on the river Guin, or Neel Abreed, west of the islands Timala or Gambia, and about 12 miles S. of Tombuctoo, of which it is the port. It is a large town without walls and a place of great trade. The inhabitants are said to be subject to sickes that are attributed to the heterogeneous qualities of their food, which is usually a farrago of milk, fish, fish, butter, oil, and wine. Here resides a judge, who is appointed by the king for deciding all controversies. N. lat. 16° 24'. E. long. 1° 30'.

CABRAL, or CARRERA, Pedro Alvarez, in Biography, a Portuguese navigator, who commanded the second fleet fitted out in 1500 for the East Indies by Emanuel, king of Portugal. Axious to avoid the coast of Africa in the course of his voyage, he fled out far to sea, and after a month's fasting, was driven by a tempest on the shore of an unknown country, which proved to be that part of South America, now called Brafil. Having landed at Santa Cruz on the 24th of April, 1500, he took possession of the whole country for the crown of Portugal. (See Brasil.) From this new coast he proceeded to Solia in Africa, whither he arrived after having lost six of his thirteen ships; and from thence he failed to Calicut, where he obtained leave of the sovereign, or zamorin, to form a commercial establishment. Some time after there occurred a jealousy between him and the inhabitants, which produced hostilities, in the course of which Cabral burnt several ships in the port, and battered the town, so that the zamorin was at length obliged to acquiesce in the terms that were proposed. He afterwards went to Cananor, where he made a treaty with the prince; and in 1501 he returned to Portugal with a rich cargo. He published an account of this voyage, printed in an Italian translation by Ramuio at Venice. Having gained reputa-
tion by his discoveries and exploits, he died in his own country. Nouv. Dict. Hist.

CABRAT, in Geography, a town of Spain, in the territory of Cordova; 3 miles N.W. of Lucena.

CABRE, a town of the island of Cuba; 30 miles S. of Spiritu Santo.

CABRELLA, a town of Portugal, in the province of Ellemadura; 1/2 leagues E.S.E. of Setubal.

CABRERA, lat. Caparvia, a small island in the Mediterranean, deriving its name from the number of goats upon it. It is mountainous and desert; no part being inhabited except its port, which is large and safe, and the entrance of which, opposite to Majorca, is defended by a castle and a small garrison. Under the west end of the island there is a good road. Criminals are banished into this island; 2 1/2 leagues S. from Majorca.—Alfo, a small island near the north coast of the island of Sardinia, lat. 41° 15'. E. long. 9° 27'.—Alfo, another island, named likewise Caprara, lying about E.N.E. from Cape Corse, on the north point of Corica, nearly N. from the west end of the Elbe Island. — Alfo, another island E. of the island Sapienza, at the S.W. point of the More.—Alfo, another island in the gulf of Venice, not far from the coast of Italy, and nearly north from mount St. Angelo, or the gulf of Varennes.

CABRERA island, lies on the south coast of Candia island, S. of the Archipelago islands, about twelve leagues E.N.E. from the island of Goza. On the exit of it is a fair bay, in which is a good road; and another to the west.

CABRERES, a town of France, in the department of the Loi, and district of Cahors; 13 miles E.N.E. of it.

CARES, Illes de, or Goat island, a small island belonging to Africa, near the coast of Guinea, at a small distance from the island of St. Thomas. It is mountainous and covered with lemon-trees.

CABRETA, cape, lies on the coast of Spain, 5 leagues E. from the island Tariffs, and the westernmost point of the great bay of Gibraltar.

CABRIEL, a river of Spain which runs into the Xucar, from after it enters Valencia.

CABRIERES, a town of France, in the county of Venaissin; the inhabitants of which were ordered to be massacred by an arrêt of parliament in 1545, under the pretext of religion; 3 leagues N. of Cavaillon.

CABRILLA, in Ichthyology, a species of Perca, found in the Mediterranean sea, the body of which is marked with four longitudinal fangious bands. Linn. Misc. Ad. Fr.

CABRITA island, in Geography, See CAPREA.

CABROL, Bartholomew, in Biography, a native of Languedoc, received his education in anatomy and surgery, at Montpellier. Returning to his own country, in 1555, he was appointed surgeon to the hospital of St. Andrew, in that city. In 1570 he was invited by the University of Montpellier to take the office of demonstrator in anatomy; an office he filled with credit several years. In 1594 he published an anatomical treatise, under the title of "Alphabet Anatomique," at Tournon, 4to. reprinted at Geneva in 1602, and afterwards translated into Latin, with the title of "Alphabeton Anatomicum," id el., "Anatomes Elenchus accuratissimus, omnes humani corporis partes, ca qua facern solent methodo delineans, accesserent ontologiae, observationeque medicis ac chirurgis perutilis, 1604, Geneva." In this form it has been frequently reprinted; and is valuable, Haller says, for the number of curious and useful observations contained in it. It is inserted in a collection of treatises, entitled, "Collegium Anatomicum clarissimum trium viro- rum, Jaffolini, Severini et Cabrolii. Douglas Bibliog. Haller, Bib. Chir. Eloy. Dict. Hitt.

CABRON, cape, in Geography, the north-eafl point of Prelique ille de Samana, in the island of St. Domingo, 22 leagues S.E. by E. from old cape Francois. N. lat. 19° 33'. W. long. 68° 40'.

CABRUSI, in the Writings of the Ancients, a word frequently used to express Cyprinus, or coming from the island of Cyprus. The ancient Greeks had almost all their vitriols and vitriolic minerals from this island; they therefore sometimes called thesè cabrusi, without any addition. It is very probable that our word copperas, the common name of green vitriol, is a false pronunciation of this word cabrusi.

CABULIA, a West Indian species of hemp, produced in the province of Panama, from a plant somewhat like the chardon or iris; when ripe, they lay it to steep in water, and after drying it again, beat it with wooden mallets till nothing but the hemp remains, which they afterwards spin, and make thread and ropes of it; the former of which is so hard and tough, that with it they saw iron, by fitting it on a box, and laying a little fine sand over the metal as the work proceeds.

CABUL, CABULISTAN, or ZABULISTAN, in Geography, a country of Asia, on the limits of Hindostan, and west of the Indus, which was formerly a province of Perlia, afterwards annexed to the Mogul empire, and comprehended again under the Persian monarchy in 1759, by Nadir Shah. It is bounded on the north by Kuttore or Caferrlan, and the Hindoo-Kho mountains, which latter separate Cabul from Balk and Badakhshan; on the west by the fame mountains and Candahar, on the south by Moulton and Lahore, and on the call by Cafhmere. This Soubah, under the Mogul emperors, comprehended the whole space between the Indus and the mountains of Hindoo-Kho, being in dimensions 150 coffes (each cofe being about 176 iturate mile,) according to the Ayin Aebabere; and this is its greatest extent; for 100 coffes are given for its breadth between Kurrabagh, situate 11 royal coifes S.W. of Ghizni, and Chuganferei at the western extremity of Caferrlan. Cabul is confined on the north by the continuation of Hindoo-Kho, and on the north-east by Caferrlan. Towards the south, or the quarter of Bungroh, its extent is not ascertained; but as its greatest breadth is included within the space between Kurrabagh and Chuganferei, we may conclude that it cannot extend far beyond the river of Nughz. We have a more ample description of Cabul in the Ayin Aebabere; from which, as well as from every other account, it appears to be a country much diversified by mountains covered with eternal snow, hills of a moderate height and easy ascent; rich plains and flatly forested; and these enlivened by innumerable streams of water. It produces every article necessary to human life, together with the most delicate fruits and flowers. In the Ayin Aebabere Cabul is reckoned a part of the fowah of Cafhmere; but it has been since, with great propriety, regarded as a fowah of itself. Cabul, with respect to its natural geography, is divided into two parts, separated by a ridge of very high mountains, usually covered with snow, which runs from west to east from the neighbourhood of Ghizni to that of Deenkyte on the Indus, below Attok. The tract lying to the north of this ridge is named Lumphar, or the Lumphanah; and that on the south Bunga-hor, or the Bungothat; each having one or more considerable rivers interjecting their whole length, and discharging themselves into the Indus. Each tract has also its proper roads, and its pails over the Indus, from the districts of Cabul, Candahar, and Ghizni, respectively; but the northern, or Lumphanah road, is that in common use, either to Peria or to Samarcand, notwithstanding its circuitous nature, as it respects the former of these countries; for it is both the easiest and the safest.

Cabul, as well as Candahar, together with some districts 4 N 2 on
on the east of the Indus, are comprised within the extensive dominions of Timur Shah Abdalla, (unjustly called king of Candahar,) which extend wellnigh to the neighbourhood of the city of Teribah; including generally Cabul, Candahar, Peshawur, Ghizi, Gaur, Sizil, or Sizilatan, and Khorasan. This tract is at least 800 British miles in length, from east to west, and its breadth, though uncertain, does not bear any proportion to its length. It does not differ much from the tract comprised within the ancient kingdom of Ghizi. Timur Shah's Indian subjects are chiefly Afghans; the red, Persians and Tartars of almost every denomination. His government is said to be mild and equitable, with some degree of relaxation as to military discipline; which, in a government purely military, forebodes dilution.

Reynell's Memoir.

CABUL, a city of Afn in the above province, is the present capital of the successor of Timur Shah, and situated on a river of the same name, near the foot of the Indian Caucaus, or Hindoo Kho; and the proximity of this ridge occasioned the most rapid changes in the temperature of the atmosphere. Its situation is spoken of in terms of rapture by the Indian historians; it being no less romantic than pleasant; enjoying a wholesome air, and having within its reach the fruits and other products both of the temperate and the torrid zones. In a political light, it is considered as the gate of India towards Tartary; as Cabul holds the same place with respect to Persia. Mr. Forster, in his "Journey from Bengal to England," describes Cabul as a walled city, about 14 miles in circumference, and leant on the eastern side of a range of two united hills, generally the figure of a semicircle. The fortification, which is of a simple construction, with fearlessly a ditch, and the houses built of rough stones, clay, and unburned bricks, exhibit a mean appearance, and are ill suited to the grandeur that might have been supposed to subsist in the capital of a great empire. But the Afghans, he says, are a rude and unlettered people, and their chiefs have little propensity to the refinements of life, which indeed their country is ill adapted to gratify. From the Indus to the western limit of this extensive territory, there is an invariable deficiency of wood; infomuch, that the lower classes of people in the northern quarter suffer as much, perhaps, from the want of fuel in the winter season, as those of other countries would do from a scarcity of provisions.

This quarter of Afghanistan, sparsely but few Indian productions, receives sugars and cotton cloths chiefly from Persia, without it sends iron, leather, and tobacco. To Candahar it exports iron, leather, and lamp-oil; whence the returns are made in sundry manufactures of Persia and Europe, with a large supply of excellent incens. The Tartars of Buchara bring to Cabul the horses of Turkistan, furs, and hides; the latter resembling those in Europe called Bulgarian; the amount of which is applied to the purchase of indigo, and other commodities of India. The adjacent parts of Usbeck Tartary, of which Balk is the capital, hold a kind of dependency on Timur Shah.

The Afghans are the indigenous possessors of a tract of country, which extends from the mountains of Tartary to certain parts of the Gulf of Cambay and Persia; and from the Indus to the confines of Persia. The inhabitants of this wide domain have no written character, and speak a language peculiar to themselves. They are a robust, hardy race of men, and being generally addicted to a state of predatory warfare, their manners largely partake of a barbarous turbulence, and they avow a fixed contempt for the occupations of civil life. See AFGHANS.

Ahmed Abdalla, first king of Candahar, was originally the chief of an Afghan tribe, conquered by Nadir Shah, on whose death he suddenly appeared among his former subjects, and soon erected a considerable kingdom in the eastern part of Persia, including most of the Indian provinces ceded by the Mogul to Nadir. He established his capital at Cabul. Ahmed died about the year 1775, and was succeeded by Timur, who continued to reside at Cabul; but the monarchy has been styled that of Candahar from a central province. The successor of Timur was Zaman, who probably still rules this extensive country. Cabul is situated in N. lat. 34° 57'. E. long. 68° 34'.

CABUL, a river of the above-mentioned province, has also the proper name of Kamsh or Kamah from the vicinity of Jalalabad, 62 or 70 miles below the city of Cabul down to Peshawur. At Jalalabad it is navigable for jachts, or rafts of a particular construction; and no embarcations in hollow vellastarein ufe, we may infer that the navigation is interrupted by rapids, for the water of the Kamah is sufficient to carry boats. The Cabul, after receiving the rivers of Bujore, Penjokech, Chundoul, and Sezuw, joins the Indus at Attock.

CABURE, in Ornithology, the Brazilian name of the great eared owl of that country, Stryx Brasiliiana of recent authors. The Cabure of Willughby is the same bird.

CABUSEIBA, in Botany. See Myroxylon Peruviunum.

CALYBARA, in Zoology, an animal of the Cavia genus, distinguished specifically by having no tail; fore feet three toed, and palmated. Schreb.

This animal grows to the length of about two feet and a half; the head is oblong; snout narrow; nostrils black and roundish; upper lip flat; whiskers black; eyes large; ears short, erect, naked, and black. It inhabits the eastern parts of South America, where it frequents rocky woods near large rivers; swims and dives well; feeds on fish and vegetables, the former of which it catches in the night; brings forth one young at a time. This is the thick noded tapir of Remnants.

CABYLA, in Calypso, an animal of the Callida genus, and the most of the immediate descendents of the most ancient inhabitants of the country, and in this respect frequently denominated Brescas or Brescas (See Breeds); and partly the mixed progeny of the aborigines and of the nations who in former times invaded the country and settled in it; but all of them have always been and still are distinguished from the other inhabitants of the country by their language, love of freedom, and rude unpolished manners. The Cabyles are divided into distinct tribes, many of which are free and independent, and do not acknowledge the superiority of Algerians; especially those who inhabit the inaccessible ridges of mountains. The neighboring tribes are often united by friendly alliance, without subjugating themselves to a common head. Others live in a continual state of contention and feud with their neighbours, the chief cause of which are the fidelity and Melbourne of their wives. They are, in general, well-grown, robust, meagre, and of a tawny-brown red, and often blackish-yellow complexion, and have black or dark-brown hair. Their external appearance is rendered still more uncouth by dirt and tattered clothes. They commonly dwell in huts; though stone-houses occasionally occur in their "dakaras" or villages. Their number decreases, and their love of liberty gradually declines. The inhabi-
tants of the highest parts of the mountains, however, still affect their independence, and defend their liberty with undaunted valor against every hostile attack. Their courage, concurring with a perfect knowledge of the country, saves them from the superior force of their enemies, as the Algerines have, within a late period, frequently experienced. The government, therefore, endeavors to maintain a good understanding and friendship, where force is ineffectual, and often yields even to unreasonable demands. Thus the Cabyles of Conco are treated with great lenity; for the situation of their country is favourable, and they can assemble a strong army; and they carry great quantities of oil and soap for sale to Algiers. The cafe is the same with respect to the Cabyles who inhabit the sea-coast about Bugia, Bona, and Tabarca. Among the Cabyles, who acknowledge no common chief, those of the greatest age are particularly honored; and only their priets, or "Marabuts," enjoy the general confidence of the tribes, and have under the cloak of religion acquired great power and authority, which in force influences have become hereditary. These then act in the capacity of heads of the tribes, form treaties of peace, send ambassadors, and are by others, and even by the Turks, considered as the chiefs of the nation. In the vicinity of the capital of a deceased Marabut, or fain, is generally the habitation of the Marabut of the tribe, who, by means of a flag hoisted on a pole erected upon the edifice, gives the usual signal when the time of prayer arrives. From the same place signals are made, on the approach of the enemy, to the Cabyles, to assemble them at the appointed place of rendezvous. The language of the Cabyles, like that of the Moors, is a dialect of the Arabic. It deviates, however, so much from the latter, that in many places Moors and Cabyles are not able to understand one another.

CABYNE, in Geography, a small island in the Indian ocean, southerly of Martinique; and near the island called Hageden or Izsard-island.

CAçABELOS, a small town of Spain in Leon, seated in a valley between high mountains; 30 miles N. W. of Leon.

CACABOGA, in Zoology, the name of an American serpentine, by some accounted the same with the Tarbohias, or black water snake of that part of the world; but by others described as being of a yellow colour, living about houses, and doing great mischief among poultry, although its bite is not fatal to mankind. This is an ambiguous species.

CAÇACA, in Geography, a town of Africa, in the kingdom of Fez, taken by the Moors from the Spaniards in 1534, is defended by a strong fort on a rock; 16 miles S. of Mohila.

CACAGUAULES, a town of North America, in the country of Mexico, and province of Tlaxcala.


Gen. Ch. Cal. common, simple, oblong, somewhat calyced at the base, cylindrical; scales five to ten, or more, equal, lanceolate-linear, forming a tube, with a few short ones incumbent on the base. Cor. compound, tubular; florets hermaphrodite, uniform; border four or five-cleft, cleft, gradually thickening into the tube. Stem. filaments five, very short, capillary; anthers cylindrical, tubular. Py. germ oblong; style thread-shaped, the length of the flaments; filaments two, oblong, revolute. Per. the permanent calyx. Seeds solitary, narrow-ovate; down capillary. Recept. naked, flat, dotted.

Eff. Ch. Cal. cylindrical, oblong, somewhat calyced at the base.

Of the Limneas in his Species Plant. and Syll. Nat. admitted some plants into this genus, which in opposition to his own generic character are without the short scales at the base of the calyx. These are now placed under a distinct genus, for which Limneas's original name Kleinia has been revived. La Marec in Encyc. and professor Martyn in his edition of Miller, still, however, adhere to the arrangement of Limneas. The latter has inconsistently retained the original generic character, which the former has altered so as to adapt it to all his species.

Species. * Stems fibiously.

three feet high, upright but weak, round, fleshy, marked with lines of a deeper green, branching; young branches jointed. Leaves scattered, generally pinnate; pinnules oblong, toothed or entire, the end one largest. Jacquin. Pinnatifid or halate, but more frequently ternate-pinnatifid; the segments lanceolate, spreading very much, the two lowest distinct; the sinus rounded. L’Herit. Runcinate, or sometimes simply halate, situated towards the summit of the branches and stem. Flowers white, or slightly tinged with red, in a loose corymb; peduncles long. La Mark. Obs.

According to Jacquin, as quoted by Professor Martyn, the calyx is without incumbent scales at the base, which would make it a Kleinia; but Wendlow, who had access to a living plant, continues it under calisia. A native of the Cape of Good Hope. S. C. papillaris, Linn. Sp. Pl. (Kleina Hort. Clf. Calcalianthemum Dill. eth.) "Stem befit with truncated, petiolarly spines; leaves lanceolate, plain." Perennial. Stem about three feet high, cylindrical, befit on all sides with apparently truncated tubercles, which are the permanent petioles of fallen leaves. Leaves three or four inches long, nearly cylindrical, with a longitudinal furrow, glaucous-green, scattered about the summit of the branches. A native of the Cape of Good Hope. 9. C. Kleina, Linn. Spec. Plant. (Kleina, Hill, Clf. Calcalianthemum Dill. eth.) "Stem compound; fears of the petioles obsolete, leaves lanceolate, flat; flowers corymbosus." Stem thick, fleshy, cylindrical, branched, smooth; the scars of the fallen leaves a little more or less branched; branches smaller at their juncture and seemingly jointed. Leaves four or five inches long, fleshy, pointed, slightly furrowed on their upper surface, growing in tufts at the summit of the branches. Peduncles solitary, in the centre of the tuft of leaves, each supporting a corymb of oblong, pale-carnation coloured flowers. La Mark. Receptacle narrow, sprinkled with obsolete papillae, naked or smooth. Sepals oblong, nearly cylindrical, smooth, rufescent; stem longer than the calyx, of a fleshy white; rays capillary, very minutely dentilicate. A native of the Canary Islands. By some gardeners it has been called cabbage tree, from the resemblance of its flakes to those of cabbage; by others, carnation tree from the shape of the leaves and colour of the flowers. Miller. 10. C. Adora, Willd. "Leaves lanceolate, flat; flowers umbellate." Vahl. Symb. 3, p. 90. Perennial. Stem erect, branched, scarred, with three white, elevated lines proceeding from each pair upwards and downwards. Leaves at the summit of the younger branches, fleshy, scattered, thick, smooth. Peduncles six or seven, fleshy, forming an umbel from the furtums of the branches, and furnished at their base with a few lanceolate scales. Calyx cylindrical, five-leaved, smooth, with two linear leaves at its base. Vahl. Found by Forskall on the mountains of Arabia Felix. 11. C. Antemphurum, Linn. Spec. Plant. 1108. (Kleina Hort. Clf. Antemphurum, Bauh. Pin. 257. Dod. pamp. 158. Lob. ic. 1, p. 26. Moris. Hist. 3, p. 343. tab. 37. fig. 10. Dill. cth. 63. tab. 55. f. 2.) "Leaves ovate-oblong, flat, with a triple line at the base of the petioles." Perennial. Stem several, three or four feet high, cylindrical, as large as a man’s finger, irregularly branched. Leaves succulent, pale green. It was formerly esteemed a specific against the poisonous effect of euphorium. A native of the Cape of Good Hope. It has been cultivated in European gardens since 1576, but it very rarely flowers. The flower figured by Dillenius was produced in the garden of Mr. Bladwine at Diriham in Gloucestershire. 12. C. rigidissimus, Willd. "Leaves ovate, obtuse, flat." Thumb. Prod. 142. Perennial. A native of the Cape of Good Hope. 13. C. arlytcula, Willd. "Leaves lanceolate, flat, smooth." Thumb. Prod. 142. A native of the Cape of Good Hope. 14. C. tomentosus, Linn. Sup. 351. "Leaves fleshy, lanceolate, toothed, tomentose beneath." Perennial. Found by Thunberg at the Cape of Good Hope. 15. C. aculeata, Linn. Sup. 352. "Stem tomentose; leaves petiolate, ovate-lanceolate, entire, very smooth above, tomentose beneath, revolute at the edge, panicled terminal." Perennial. Stems upright, bright. Leaves opposite, spreading at the base, and gradually drawn to a point, veined, the circumference of a bay leaf; petioles roundish, tomentose. Panicles small, crowded. Calyx with few flowers; the scales at its base rather large. It has the habit of an alepia. Found by Mutis in South America. 16. C. appendiculatus, Linn. Sup. "Stem tomentose; leaves ovate-heart-shaped, acute, angular, tomentose beneath; petioles with leafy appendages." Perennial. Stem angular, hairy. Leaves higher than the stem, on long petioles, a little angular, nerving, veining; appendages three pair of very few, opposite, entire, petioled leaflets; the largest pair situated the farther from the leaf. Peduncle furnished with a bract. Flowers yellow. Found by Maffon in watery places of the island of Teneriff. Another plant was found by him on the mountains of the same island which he judged to be a distinct species, but thyncn more Callisia thought it only a variety with a very smooth leaf, and leaves corymb-oblong, a little toothed, and not angular. 17. C. reticulatus, Willd. "Leaves heart-shaped, roundish, embracing the stem, toothed; flowers corymbosus." Vahl Symb. in. 91. Perennial. Stem branched; branches from the nerves of the decurrent leaves, angular, smooth, thickened at the joints under the leaves. Leaves resembling those of borbonia crenata, alternate, alternate, with an inch long, smooth, reticulated with veins; teeth, as well as the edges of the reflexed leaves, thickened; nerves of a blood-colour at the base. Corymb somewhat fagitate; peduncles and pedicels smooth; with a small bilabiate base of the pedicel. Calyx fimbriate, smooth; pedicels about twelve, fimbriate, equal. Stem simple, the length of the calyx. Vahl. 18. C. procumbens. Martyn’s Miller. (Rumph. Amb. t. 103. f. 2.) "Stem somewhat shrunken, procumbent; leaves ovate-lanceolate, slightly serrated, fleshy; racemes elongated, interrupted." Lour. Coquin. 485. Perennial. Stems nine feet high, procumbent, round, equal, smooth, succulent, branched. Leaves bright green, smooth, alternate, petiolate. Calyx cylindrical, even. Flowers gold-coloured, few, long, with the segments of the border erect. A native of China and Cochinchina, where it is used as a pot-herb.

CACAIA.

22. C. fimbriifolia, Linn. Sp. Pl. 1169. (Kleinii, Flor. Zeyl. Mulc Schnar, Rheed. Scedia undulatiflora, Plak. Amalch. 192. t. 444. f. 1. Chondrella zeylanica, Burm. Zeyl. 61. S. ‘ambuvencis, Rumph. Amb. 5. p. 257. t. 103. Togo- linia, Pet. Gaz. t. 82. f. 13.) "Leaves embracing the stem, toothed; lower ones lyre-shaped; upper lanceolate, arrow- shaped." Willd. Root annual. Stem slender, a little branchy, about a foot and half high, round, and sprinkled with a few hairs. Leaves alternate, with a few hairs, especially on the ribs. Flowers terminal, about the fiese of those of common groundfeet, cylindric. Peduncles bristle-shaped. Calyx perfectly simple. The whole plant has the appearance of the common four-thistle, but it is easily distinguished from it by the simple calyx and tubular florets. A native of Ceylon, Malabar, Ambon, China, &c. A decoction of it is esteemed a febrifuge and antimalassic; its juice is given in diarrhœa. 24. C. fagittata, Willd. "Leaves toothed, the lower ones petioled, obovate; the upper oblong-lanceolate, arrow-shaped, embracing the stem." Vahl Symb. iii. p. 92. excluding the synonyms. Annual. Resembhng the preceding, but three times larger in all its parts. Lower-leaves petioled, obovate, not lyre-shaped. Flowers of an elegant orange-purple colour. A native of Java. 25. C. hieracioides, Willd. "Stem simple; leaves petioled, obovate, toothed." Annual. Stem a foot high, erect, sometimes with one or two very small branches from the axils of the lower leaves. Leaves alternate, obtuse, remotely toothed, smooth on both sides; the uppermost lanceolate, s€fille. Flowers somewhat corymbose. Peduncles alternate, pubescent, supported by a lanceolate bracte. Calyx with twelve lanceolate leaves, and many flowers. A native of the East Indies. 26. C. bicolor, Willd. "Stem branched; leaves lanceolate, smooth, toothed; those of the stem embracing it; those of the branches petioled." Willd. Roxburgh. Stem two feet high or more, erect, smooth, flariated. Peduncles very long, terminal, feally, one-flowered. Calyces twelve-leaved, many- flowered, the size of those of C. fagittata. Floras purple. A native of the East Indies. 27. C. incaua, Linn. Sp. Pl. "Leaves lanceolate, toothed." Stem erect, tall. Leaves feebly petioled, rather thic. Peduncles terminal, branched, long, naked, or with one or two very small leaves. A native of the East Indies. 28. C. rotundifolia, Willd. "Stem branched; leaves roundish, petioled, repand, pubescent; flowers corymbose." Stem two feet high or more, erect, round, flariated, lightly pubescent. Leaves alternate, small, scabrous on both sides, sprinkled with very short hairs. Corymb terminal, many-flowered, divericatied. Calyxes of twelve lanceolate leaves. A native of the East Indies. 29. C. foehra, Willd. "Radical leaves petioled, oblong, toothed; ilmen-leaves lanceolate, sessile." Vahl. Symb. ii. p. 92. Stem erect; a foot high, simple, round, flariated, hairy, especially at the base. Root-leaves two inches long, with unequal teeth, terminating in a sharp point, rather scabrous above, veined, narrowed at the base, and decurrent into the petiole. Stem-leaves few; the three lowest near together, an inch and half long, with four or five teeth on each side; the three upper ones remote, half an inch long, linear-lanceolate, very entire, erect. Petiole of the radical leaves long, hifrutae, flat. Flowers five, peduncled, alternate, situated near the summit of the stem; pedicels round, hifrutae, with a linear-lanceolate bracte at the base of each pedicel, and another in the middle. Calyx perfectly simple, of twelve linear-oblong leaflets the length of the florets. Downe sessile, feathered with very minute hairs, visible only under a lens. Vahl. A native of Brazil. 30. C. indica, La Marck. "Stem downy; leaves nearly deltoid, irregularly toothed, on long petioles; bracte bristle-shaped, invediting the peduncles." Stem about a foot high, clothed with a white cottony down, branched near the bottom, leafy. Flowers nearly solitary at the summit of each branch; scales of the calyx linear; peduncles cot- tony. A native of the East Indies, communicated to La Marck by Sonnerat. 31. C. saracenica, Linn. Sp. Pl. 1169. (Saldigdr Lamoniier, Off. 105. Sauv. Monps. 84. Gouan Monps. 144. S. peregrina, Vaill. Act. 366. Virga autea, Moril. Hydr. ii. p. 1063. C. saracenia, Zeyl. Chem. Act. Par. 1705. p. 394.) "Leaves lanceolate, fliatted, decurrent." Perennial. Stem two or three feet high, flariated, almost entirely smooth, leafy, straight, a little branched at its summit. Leaves alternate, pointed, sessile, or even embracing the stem, smooth above, and slightly pubescent beneath. Flowers pale yellow, in a termi- nal corymb. C 1 calyx nearly simple. Peduncles furnished with bristle-shaped leaflets. La Marck. A native of the south of France. This plant has fo strong a resemblance to Sence Saracenica, that La Marck has separated it from that genus chiefly in deference to the authority of Linnæus. 32. C. baflata, Linn. Spec. Pl. (Senee, Gmel. Sib. ii. p. 136. t. 66.) "Leaves three-lobed, acuminate, s€fille; flowers nodding." Perennial. Stem covered with a glaucous meal. Leaves hialate-deltoïd. Flowers of about five white florets, without the fetaecous bracts, except at the subdivisions. Anthers black. Peduncles hoary, somewhat tomentose, Linn. Calyx cylindric, consisting of many leaves in a simple or nearly double series, calyced at the base with acute scales. Receptacle rather flat, naked, with pentagon areas, inclosing a depressed little nipple. Seeds roundish, flariated, of a pale bay colour. Downe capillary, soft, white, minutely toothed, a little longer than the seed. Hirt. A native of Siberia. La Marck judges it only a variety of the preceding. 33. C. fiaracoa, Linn. Sp. Pl. "Leaves hialate-arrow-shaped, toothed; petioles dilated upwards." Perennial. Stems four or five feet high, flariated, leafy. Leaves alternate, pointed, smooth. Flowers whitish, in a terminal compound corymb; calyx and peduncle smooth, with fetaecous bracts under the calyx, and under the divisions of the peduncles. A native of Virginia and Canada. 34. C. atriphilfolia, Linn. Sp. Pl. (P a r o p h y l l u m, Grun. virg. i. p. 94. Narthus, Plak. alm. t. 101. f. 2.) "Leaves somewhat heart-shaped, toothed, sessile; calyces with five florets." Root perennial, com- posed of many feathery, spreading tubes. Stems three or four feet high, round, slightly flariated, leafy, a little branched. Leaves alternate, petioled, smooth, of a glaucous colour beneath; lower ones heart-shaped, rounded, as large as the human hand, with large, unequal indentures; those on the item heart-shaped, pointed, angular. Flowers small, ob- long, pale, or reddish, in a terminal, loose corymbus. Calyxes simple, conifilling of five or six linear leaflets, scarious at their edges. La Marck. A native of Virginia and Canada. 35. C. rectilinna, Willd. "Leaves petioled; radical ones between kidney and heart-shaped, toothed in a repand manner; item ones oblong, toothed, wedge-shaped at the base, very entire; corymb faltigata." Perennial. Radical leaves large, smooth, hairy underneath on the nerves; stem-leaves very entire, remotely toothed from the middle to the end. Corymb many-flowered. Calyx of five, lanceolate, obtuse leaflets. Floras numerous, white. It refembls C. atriphilfolia, but is clearly distinguished from it by the form of its leaves, and its fetaecous corymbs. A native of Pennsyl- vania. 36. C. pelatae, La Marck. (Alpina, Linn. Sp. Plant. Willden. 33.) but not all the synonyms, hiriflus, Villars Dauph. 3. 170. C. incaua folio, Claus. Hjfl. 2. p. 115. C. foliis crumplis hirifasis, Baulh. Pin. 195.) "Lower leaves large, roundish-heart-shaped, angular, toothed, stem-
of somewhat lanceolate, auricled at the base; corymb loose." Perennial. Stem three or four feet high, round, reddish, a little pubescent. Radical leaves near a foot in this species, toothed between the angles, green and four inch, with which and cottony underneath, resembling those of the common butterbur; petals long; stem-leaves smaller, opposite, or placed at the base with two roundish auricles which embrace the stem; upper ones lanceolate, sessile and embracing the stem. Flowers purple, in a terminal, loose, and branched corymb; flowers two or three: calyx simple, of four leaves. L. Marck. Bract linear at the base of each pedicell. Calyx calcified, with three linear, open leaves. Villars. Observed by La Marck on Mont d’Or, in Auvergne, in sheltered, moist situations, and especially in the ravines where it grows in abundance. There is a smaller variety with clustered flowers. "C. leucophylla," Willden. (alpina Tourn. ind. 453. tomentosa, Jacquin and Villars.) "Leaves petiolate, cottony on both sides, toothed; lower ones heart-shaped, acuminate; upper ones lanceolate; petals naked; flowers corymbose; calyxes many-flowered." Wilk. This species is remarkable for the whitenss of all its parts. Stem from twelve to fifteen inches high, straight, simple, cottony. Leaves alternate, frequently with two small auricles at the base of the pedicel. Flowers terminal, in several fascicles, or small, close corymbs; calyx of more than six leaves; florets from eight to fifteen. It varies in sometimes having the upper surface of the leaves green. A native of the Alps. This variety seems to be the alibrons of the younger Linnaeus and Willdenow, excluding all the synonyms quoted by the latter. 39. C. alliariifolia, L. Marck. (alpina. 2. Linn. pyrenica. Tourn. 452.) "Leaves between kidney and heart-shaped, ferrated, smooth on both sides, without auricles; calyx with about five florets." L. Marck. Perennial. Stem about a foot high, almost smooth. Leaves, especially the lower ones, rounded like those of crymionium alliaria, or rather those of caltha palustris, green on both sides, with branched nerves. Flowers purple, in a small, compound, terminal corymb. Calyx smooth, of five or six oblong, obtuse leaves. A native of the Pyrenees and the mountains of Dauphiny. Obs. Gouan’s description of his C. alliaria, (Lilliu. p. 65.) does not correspond with this plant, though he quotes some of its synonyms. 39. C. ecbinata, Linn. Sup. 353. "Leaves between kidney and heart-shaped, angular, toothed, downy beneath; leaves of the calyx tubercled." Found by Maffon on precipices in the island of Teneriff. 40. C. candicans, Wilk. "Downy; radical and lower leaves ovate, petiolate, crenate; upper ones feathery, elliptic, very entire." Vahl. Symb. 3. p. 91. t. 71. Stem a foot high, erect, simple, leafy, about the size of a swan’s quill, and, as well as the rest of the plant, the calyxes excepted, clothed with a very white wool. Radical leaves three inches long; lower stem-leaves three inches long; petals of the radical and lower leaves three inches long, flat, embracing the stem, dilated upwards into the leaf. Corymb terminal, many-flowered. Pedicel one-flowered, with an acuminate leaflet at the base of each. Scales of the calyx lanceolate, smooth. Flowers the length of the calyx. Vahl. A native of the flyer of Magellan. 41. C. scandens, Wilk. "Stem climbing; leaves triangular, minutely-toothed." Thumb. Prod. 142. A native of the Cape of Good Hope. Obs. The C. scandens of L’Heritier is the Eupatorium Scandens of Linnaeus removed to Mikania by Willdenow. 42. C. quinqufolia, Wilk. "Stem climbing; leaves five-lobed." Thumb. Prod. 142. Cape of Good Hope. 43. C. bipinnata, Linn. Sup. (pinnatifida, Berg. cap. 230.) "Leaves twice pinnate, linear." Stem erect, crisped, smooth. Leaves rather crowded, toothed, smooth, three inches long. Panicle terminal, somewhat filifoliate. Flowers yellow. C. hypoglaucifolium, five-leaved, five-flowered, acute. A native of the Cape of Good Hope. 44. C. bullata, Mart. Mill. "Leaves radical, lyrata; stem almost naked; petals few-flowered." Lour. Cochinch. 458. Root a roundish knotted, perennial bulb. Root-leaves toothed, somewhat fleshy, petiolated, few. Stem a foot and a half high, upright, round. Flowers gold coloured, on a terminating peduncle, several together. Calyx cylindrical, with a calyx of five thread-shape leafy bracts. Tube of the florets longer than the border, inflated, reflexed, with a short converging border. Stigmas two, long, erect. A native of China and C ochinechina. 44. C. pinnaatifida, Mart. Mill. "Leaves pinnatifid; segments lanceolate, ferrated; petiole twisted. Lour. Cochinch. 458. Stem two feet high, upright, thick. Leaves smooth, not fleshy. Flowers yellow, in a terminating panicle, few together. Calyx oblong, round. A native of China near Canton, among rice.

Propagation and Cultivation. All the parts which are natives of the Cape of Good Hope may be propagated during the summer months, by cuttings, which should be laid to dry a fortnight, that the wound may be healed over before they are planted; but if they have been kept six months they will take root. The pots in which they are planted may be plunged in a moderate hot-bed; but if they are planted in June or July they will root as well in the open air. They should have a light sandy earth, and in winter be placed in an airy glass-cage, where they may enjoy the sun and air in mild weather, but must be protected from the frost. Like other succulent plants from the same country, they must have little water in winter, and only a moderate quantity in summer.

The carioa increases fast by its roots, which may be parted either in the beginning of September or at the end of March. They should be planted in pots filled with light earth, and constantly kept in the tan-bed in the house.

The papillaria and antebphorum require a sandy poor soil, and must be kept very dry both summer and winter; but they require the open air in summer. The kleina, if kept in a dry warm glass-cage in winter, and in a warm sheltered situation in summer, will flower annually, and grow to the height of eight or ten feet.

The fondafloria is propagated by seeds, which succeed best when sown in autumn soon after they are ripe, and the pot plunged in the tan-bed in the house. In spring they may be sown in a hot-bed, and at a proper time transplanted into another hot bed, haging them till they have taken root. When the plants have acquired strength they should be planted in pots, and either plunged into a moderate hot-bed under a deep frame, or placed in a glass-cage, where they will flower and perfect their seeds. The fumariae and antebphorum multiply greatly by their spreading roots, and also by their seeds, which are waited to a great distance by the wind. The roots should be transplanted in autumn. They require a loamy soil, and a shady situation. See Mr. Baw’s Miller.


Calaia,
CACA

CACALIE, in Entomology, a species of Chrysomela that inhabits Austria: the colour is greenish, with a longitudinal streak on the wing-cases and future blue: wings red. Herb.

CACALIANTHEMUM, in Botany, Dill. Elth. See CACALIA Popilaris and C. Kleinia.

CACAALIA, or CAZALLA, in Geography, a town of Spain, in the country of Seville, famous for its wine; 40 miles N. of Seville.

CACALOTL, in Ornithology, the Brazilian name of the Corvus varius of Brillou, a variety of our common raven, according to Fernando's History of New Spain, &c.

CACALOTLI. Ray describes the lesser ani of modern writers, Crotophaga ani of Gmelin, under this name.

CACAMO. See ACAMANTIS.

CACAO, in Botany. See Theobroma and Chocolate. The cacao nuts are used by the Indians as money; 150 of the nuts being estimated at such the same value with a Spanish ryal.

CACAO AUFFINIS. Sloane. See RANDA MITS.

CACAO, in Entomology, a species of Bruchus, found among the seeds of the Theobroma. The body is fuscous with griseous spots. Fabricius, &c.

CACATETE, in Natural History, the name by which the Brazilians call the Belemnites, which is very common with them as well as with us.

CACAIPEHON, in Geography, a river of Virginia, which runs about 70 miles north-eastly along the western side of north ridge, and discharges itself into Potomack river, 30 miles N. of Fredericks-town.

CACARA, in Botany, Rumph. See DOLICHOS unguiculatus and prunicus.

CACASTOL, in Ornithology, the name given by Buffon to the Mexican stare, Sturkeus Mexicanus, a bird of a blue colour varied with black. Ray calls it Cassactostol, and Buffon Cotinga Mexicana.

CACCATOCA of Valint, in Ichthyology. See CORYPHAENUS PENTADACTYIUS. The fish called by the name writer CACOCACTA BARINTANG is the CHLATODON ARGUS of Brunnich, a species distinguished by having eleven dorsal spines, the body marked with many black dots, and the tail entire.

CACATORY fever, a denomination given by Sylvia to an intermittent fever, accompanied with a severe looseness, and sometimes gripes.

CACATÜA, in Ornithology, synonymous with Kakatou, and Cockato. Buffon calls the lesser white Cockato, PITTACUS SULPHUREUS of Gmel. Cacatua luteo-criffata. His cacatua minor is the red vented cockatoo of Brown; and the cacatua rubro-criffata, the greater red-crested cockatoo of Latham, &c.

CACAVALTE, in Botany, a name given to the cacao (Theobroma Linn.) in the general history of plants published at Lyons, 1587.

CACCARI, in Geography, a town of Naples, and province of Calabria Citra; 10 miles W. of Umbratelic.

CACCAYONE, a town of Naples, in the country of Molifice: 9 miles N. of Molifice.

CacciA, a small district of the island of Corfica. See ALGERI.

CACCIA, Ital. CHASE, Fr. a musical term for a Huntlnge-piece. Cornada caccia, a hunting horn, commonly called a French horn. Alla cacka, in the hunting style. See CHACE.

CACCINI, GIULIO ROMANO, in Biography, one of the first cultivators of recitative during the latter end of the 16th century at Florence. He is said, by Gio Battista Doni, to have been a young, elegant, and spirited finger, accustomed to attend the meetings of a society of learned noblemen and gentlemen at Florence; the members of which society were much displeased with the little respect that was paid to literary poetry by the composers of that time, who thought of nothing but fugues, canons, and crowded harmony, which being totally devoid of melody, rendered the words that were set in this manner wholly unintelligible; as the music was all in choruses, fugato, where every part was singing different words at the same time. Thee gentlemen wished to discover some kind of simple melody that would tune declamation, admit of harmony occasionally, and approach as nearly as possible to the declaration of the ancients; which they were sure was in musical intervals, as it was accompanied by instraments. Tuba pars et impares.

"Caccini being seized with a passion for this kind of music, studied it with great diligence, composing and singing to a single instrument, which was generally the Theorbo lute, played by Bardille, who happened then to be at Florence. In imitation therefore of Galilei, but in a more beautiful and pleasing style, Caccini set many canzonets and sonnets, written by excellent poets and set by such wretched scriblers (rimatetri d'azzizina) as were usually employed before, and are still frequented by the choirs of musicians; so that he may be said to have been the first to see this error, and to discover that the art of counterpoint will not alone complete the education of a musician, as is generally imagined. And he afterwards confessed, in a diffidence prefixed to his works, that the conversations held at Count del Vernio's were of more use to him, than thirty years' study and exercise of his art. Here he likewise claims the merit of having first published fongs for a single voice, which, indeed, had the greatest success. And it must be confessed, that we owe to him, in a great measure, the new and graceful manner of singing, which at that time spread itself all over Italy; for he composed a great number of airs which he taught to innumerable scholars, and among the rest to his daughter, who became a famous singer, and still continues very excellent in that faculty.

"In the recitative style, however, Caccini had a formidable rival in Jacopo Peri, a Florentine, who was not only a good composer, but a famous finger, and performer on keyed instruments, having been taught by Christoper Malvezzi; and applying with great diligence and enthusiasm to this kind of singing, succeeded wonderfully, and met with universal applause.

"The first poem set in this new manner was Dafne, a pastoral written by Rinuccini, and set by Jacopo Peri and Caccini, in a manner which charmed the whole city." See recitative and Opera.

Various experiments in dramatic music were made at the houses of the nobility of Florence, previous to the exhibition of the first serious opera, which was the Euridice, written by Rinuccini, and chiefly set by Jacopo Peri, for the royal nuptials of Mary of Medicis with Henry IV. of France, in 1600. Though the music of this drama went under the name of Peri, who performed it himself, yet he confesses in his preface that Giulio Caccini, "who gave a great merit was known to the whole world," composed some parts of it, and taught the fingers. Caccini himself afterwards set the entire drama of Euridice to music in filio Representativo, and published it at Florence. Specimens of his musical recitation are given in Burney's General History of Music, vol. IV. so that there can be no doubt but that Caccini was one of the first founders of the musical drama or OPERA, whence all the improvements in setting words.
words, in singing, and in producing instrumental effects by a well regulated orchestra for these last 200 years, may be

deducted.

CACCO, in Ornithology, one of the synonymous names by which Buffon distinguishes the long-billed rain euckow, Cuculus vulture of Gmelin, &c.

CACELLA, in Geography, a sea-port town of Portugal, in the province of Algarve, on the south-west, about 8 miles W. from the mouth of the Guadiana. N. lat. 37° 9'. W. long. 6° 40'.

CACERAS, or CACERES, a town of Spain, in the province of Extremadura, seared on the Sabor, and well known for its fine wool: 20 miles W. of Truxillo.

CACERES, a town of Asia, in the island of Luzon or Manilla, founded by the second governor and proprietor of these islands, D. Francis de Sando, and consisting of Indian huts and some convents, well built. It is the residence of a bishop, under whom are the provinces of Colba, Cara-

ines, and Talon. N. lat. 14° 15'. E. long. 124° 40'.

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CACHARON HEAD, the fourth point of Dominica island in the West Indies, and nearly N. from the north end of Martinico.

CAHACHES, in Ancient Geography, a river of Greece in the Phocide, which washed the walls of Tithorea, according to Pausianias.

CALLOT, or CACLOT, in Zoology. See Phyl-

siter Macocephalus.

CACHAN, or KASHAN, in Geography, a town of Persia, in the province of Isarc, which carries on an extensive trade in silk, stuffs, brocades, and fine earthen ware, inhabited by Chrillians and Guerbes; 50 miles N. of Isfahan. N. lat. 34° 10'. E. long. 50° 2'.

CACHAO, CHACO, CHECO, or KESHO, one of the eight provinces of Tonquin, seared in the central part of the kingdom, and encompassed by the other seven. Its soil is fertile, and some parts of the country are mountainous; it abounds with a variety of trees, and particularly that which yields the varnih. The silk manufacture is carried on in this province more than in any of the others. It takes its name from its capital, which is the metropolis of the whole kingdom; though Dampier reckons it as, in other respects, hardly comparable to a Chinefe city of the third rank, hav-

ing, however, a considerable population, which principally depends on the crowds of neighbouring villagers who retor to it at particular times, and especially on market-days, with their various commodities. These perfons are allowed to have their halls in different parts of the city, for the convenience of the dilpofal of their wares. The town itself, thought to be the constant residence of the Tonquinufe monarchs, has neither walls nor fortifications; and if we except the re-

yal palace and the arsenal, has little else worthy of notice. The streets are neither regular nor handsome; some of them, indeed, are airy and wide, but the reft are narrow, and all of them are paved; the houses are low and mean, constructed of wood and clay, and not above one story high. The magazines and warehouse belonging to foreigners are the only edifices built of brick. In various parts of the city there are, even in dry weather, ditches of stagnated water and thinking mud, which are very offensive to strangers; and yet, upon the whole, its airy situation, and serene air, render it healthy and pleasant to the natives; so that it is seldom, if ever, visited with those pestilential diseases that are com-

mon in large cities of those eastern climes. On account, however, of the materials with which its edifices are con-

structed, it is subject to frequent and dreadful conflagrations. As a preventive of the desolating effects of these calamities, every house is furnished with a low building of brick, in form of an oven, in which the inhabitants deposit, on occasions of any alarm, their most valuable property. The go-

vernment likewise obliges every family to keep a cittern, always full of water, on the top of the house, together with a long pole and bucket for throwing water upon the house. The chief palace of the chowha, or king, is situated in the centre of the town, and surrounded with a strong wall, en-

closing within its circuit a great number of apartments, two stories high; thofe of the chowha and his wives are embellis-

ed with a variety of carving and gilding after the Indian man-

ner, and are finely varnished. In the outward court are a


great number of sumptuous stables for the king's elephants

and horses; the inner courts are inaccessible, not only to

strangers, but even to the king's subjects, the members of

the privy council and the minillers of state excepted. This

enclosure, which is of a vast circumference, is faced with

brick within and without, and the whole structure is termi-

nated by spacious gardens. The king is a kind of prisoner

in this palace, and his authority is exercised by an officer,

whose family have long transmitted the executive power in

hereditary succession. The arsenal is a large building, well

flored with warlike ammunition and artillery. It stands

on the banks of the river Song-koy, and on that branch of it

which Dampier calls Domba, represented by him as the

deepest and widest of the two. The English factory-house

is situated on the north side of the city, fronting the river.

It is a low edifice, with a spacious dining-room in the centre,

and on each side are the apartments of the merchants, fac-

tors, and servants. At each end of the building are small

houses for other uses, which form two wings, with the

square in the middle, and parallel with the river, near the

bank of which stands a flag staff, on which they commonly

display the English colours on Sundays, and all other re-

markable days. Adjoining to this house, on the south side,

is the Danish factory, which is neither so large nor so con-

venient. On the same side of the river runs a long dike,

with its timber and fences strongly cemented together, which

prevents the river, during the time of their heavy rains, from

overflowing the city. This dike diphanges itself into the

gulf of Tonquin. Dr. Halley, in the Philosophical Trans-

actions, has given an account of the furrying tides in this bay;

each flux being of 12 hours duration, and its reflux the

same, so that there occurs but one high-water in 24

hours. Cachao, or Kefho, is the only city in the whole

kingdom, and is laid to consist of about 20,000 houses. N. lat. 22° 10'. E. long. 105° 31'. See TONQUIN.

CACHAR, a rich but mountainous territory of the king-

dom of Ava, lying north-west of Munniapooa, subject to

the independent sovereignty of a rajah. Its capital is Co-

pore.

CACHASSAE, in Ancient Geography, a people of Scy-
thia, placed by Ptolemy on this side of Imaus, between the

Norofii and the Afsaph.

CACHE, or, as it is called in China, CAYAZ, and in many

parts of India, Caz, Cazie, Cofie, and Chofie, in Commerce, a small copper coin, equal in value to a little more than a French denier.

CACHIZ, or CACHIEF, in the Turkish Affairs, the go-

vernor of a city, town, or even a province of Egypt.

The title cachief is also given to the captains or commander-

of little flying armies, intended to keep the Arabs in

obedience.

Egypt
Egypt is divided by the Turks into thirty-nine cachet- 
tees, or governments. 

CACHEMIRE, in Geography. See Cashmere. 

CACHEO, a town of Negroland in Africa, seated on the 
river St. Domingo, or Cacheo, and belonging to the 
Portuguese, who have three forts, and carry on a great trade there 
in slaves and wax. N. lat. 12° 5', W. long. 16° 20'. The 
river divides into several large branches before it falls into the 
ocean. 

CACHET, Christopher, in Biography, born at Neuf-
chateau in Lorraine, the 26th of November 1573, received 
the rudiments of his education among the Jesuits. To 
prove himself farther, he visited the principal states of Italy, 
but purposing to practice medicine, he fixed his residence at 
Padua, and after finishing his studies there, he settled at 
Nancy, where he arrived at the highest honours in his pro-
fession, being physician and aulic counsellor to four of 
his sovereigns, as appears by his epitaph, under his portrait, in 
the house of the Cordeliers at Nancy, where he was buried 
sept. 30, 1624.

Ut erat bono publico natus, 
Lucem literis, nomen libris, laudem suis, Patriae gloriam, 
 famam sibi, 
Principibus fepe fahem peperit. 
Serenissimus ducibus 

Archiet et confiliarius. 

He was author of several works; "Controversie Theorice 
Practice, in primam Aphorimorum Hippocratis Secctio-

Opus in duas partes divinit, Philosophus ac Medi-
cus peritile et pericundum. In quo quacunque ad Ve-
nacionem, Purgationem, et Vitus Rationem pertin-
ent, encondtur, &c." Tulli Leucorum, 1612, 8vo. "Pan-
dora Bacchica furesis, Medicis Armis oppugnata, 
"Tulli, 1614, 12mo. "Apologia dogmatica in Hermetics ejufidiam 
amoni scriptum de curatione Calculi, in qua Chymi-
curum Inceptarum vanitas exploditur," Tull. 1613, 8vo. 
"Vrai et affuré Preferatif de la Petite Volee et Rougee;
"1617, 8vo. The only art here taught is to keep children 

DiC. HilL. 

CACHETUS, in Ancient Geography, a river of Asia, 
in the kingdom of Pontus, near the town of Heraclea, accord-
ing to Diodorus Siculus. 

CACHEXIA, a term applied by the older writers in 
Medicine, to denote those conditions of the body, from what-
ever cause they may arise, in which the functions are im-
perfectly performed, and the complexion unhealthy. It is 
derived from καχεκή, bad, and εἴ, habit. The cachectic 
state of the constitution is supposed to depend upon an acrimo-
ny, or some other morbid change in the fluids of the body; 
and this seems to have been chiefly inferred from the change 
of complexion. Hence Van Swieten observes, that "aer 
physicians always examine carefully into the appearance of 
the skin, in those parts where the integuments are thin, and 
the vessels lie exposed, when they wish to know the condi-
tion of the blood and humours," § 1770. These hypo-
thefes, however, are now considered as unfounded. But 
upon whatever circumstances the cachectic state depends, it 
is obvious, that it occurs in all instances of flow confluence 
from acute and chronic diseases in general, and ac-
companies all lingering affections of the viscera and other 
parts; and therefore that it is essentially different in its na-
ture in different instances. Hence it is impossible to give 
a general history of it, as of a specific disease; or to enumerate 
the remedies which may be successfully employed for its 
cure. Where it is merely a debility, consequent on some 
fevere diseafe, moderate exercise, a light nutritious diet, 
and tonic medicines are indicated. But where it is a com-
monit of some organic affection, the nature of that must 
determine the nature of the remedy to be adopted. 

In the more accurate language of the present day, this 
vague and indefinite term is seldom employed. But it has 
been used with great propriety by Sauvages and Cullen to 
denote a particular class of diseases, in their respective sys-
tems of pathology; including those complaints in which the 
general habit is affected, and a change of complexion, with 
emaciation or morbid enlargement, are characteristic symp-
toms. Such are dropsy, jaundice, rickets, &c. 

CACHIBONA, or CILVE, in Geography, a river of the 
Island of Dominica, which runs into the sea on the east 
coast, a little to the north of Halifax bay. 

CACHICAME, in Zoology. Buffon's name of the Pig-
beak Armadillo; Dasyus numinicus of Linneus. 

CACHIMAYO, in Geography, a large river of South 
America, in Peru, which falls into the ocean within 2 
leagues of La Plata. 

CACHIQUE Tener and Bay, are situated on the coast 
of Barbary, in the Mediterranean, nearly W. from Algiers 
or 7 leagues. 

CACHOLOING, in Mineralogy. See Chalcopent. 

CACHOPS SANDS, in Geography, are two remarkable 
banks, which contract the channel of the mouth of the Tagus, 
in its influx into the sea, below Lisbon. 

CACHORROMATOS, in Zoology, the name by which 
the Portuguese in America call the Taini; a crea-
ture said to resemble the Opossum in many respects, and 
by some supposed to be the male of that creature. 

CACHRUS, in Entomology, a species of Papilio, (Plebe-
jius) with entire yellow wings, and a common fucous border 
spotted with white. Fabr. &c. This inhabits South America. 

CACHYS, in Botany, &c. The word is used in 
many instances by different authors, and has been the oc-
casion of great perplexity to the grammarians and commen-
tators. In Theophrastes (lib. iii. cap. 7.) it seems to de-
note the catkins of the oak, waultoin, pine, &c. by other 
writers it is used, sometimes for the root, sometimes for the 
feed of the plant to which modern botanists have given the 
name name, and sometimes for the plant itself. It also sig-
nified the feeds of roasted barley; and some have supposed 
that the plant derived its name from the resemblance of its feeds 
to those of barley. (See the notes on Theophrastus by 
Conklin and Bodenius a Stapel, p. 139, 140. Tournier. 
325. Vent. vol. iii. p. 36. Libanotis Cachyphorus, 
Rivi. Hil. Plant. p. 424. Clas and order, pentandria digy-

Gen. Ch. Col. universal and partial umbels manifold: 
universal and partial involucres, many-leaved, linear-lance-
olate, perianth proper, feecurcly dicernible. Cor. flowers all 
uniform: petals five, lanceolate, almost upright, equal, flat-
tift. Stam. filaments five, timple, the length of the corolla: 
anthers simple. Fil. germ top-shaped, inferior: styles two, 
inferior, the length of the corolla. Peric. fruit somewhat 
egg-shaped, obtuse, very large, splitting in two. Seeds two, 
very large, very convex on one side, flat on the other; of a 
fungous or dusty pungent substance, each enclosing a solitary ovate-
elong kernel. 

End. Ch. fruit somewhat egg-shaped, with a thick integu-
ment of a pungent subflance. 

p. 270. i. g. f. i, 2, 3. Vol. v. p. 106. Pl. 4. French 
translation. Gart. vol. ii. p. 274. Pl. 140. f. 3. " Rad-
ical
CAC

dictal leaves twice pinnate, white with down; stem naked; seeds perfectly plain." Root perennial. Stem four or five feet high, almost naked; branches alternate. Radical leaves large, unequally winged with five or three leaflets, elliptic, obtuse; crenulated, and sometimes lobed, pubescent, a little harrow to the touch, of a greyish green colour: leaves at the summit of each leaf, decurrent on the petiole. Flowers white. Involucres of from five to nine leaves. Germs covered with white hairs. La Marek. Seeds a little puny. Vahl. A native of Sicily, Spain, and Barbary.

CACHRY, CACHOS, or CATECHU. See CATECHU.

CACHUNDE, the name of a medicine highly celebrated among the Chinese and Indians, and made of several aromatic ingredients, the perfumes, medicinal earth, and precious stones: they make the whole into a stiff paste, and form out of it several figures according to their fancy, which are dried for use; there are principally used in the East Indies, but are sometimes brought over to Portugal. In China, the principal perfonus usually carry a small piece in their mouths, which is a continued cordial, and gives their breath a very sweet smell. It is a highly valuable medicine also, in all nervous complaints, and is esteemed a prolonger of life, and a provoking to venery, the two great intentions of most of the medicines in use in the East.

CACHYMIA, in Metallurgy, a term used by Paracelsus for an imperfect metallic ore, as he expresses it, an immature metallic body, which is neither a saline substance nor a metal.

The cachymia may be divided into sulphurous, as marcasite; mercurial, as arsenic or orpiment; and saline, as all tales.

CACIDARI, in Ancient Geography, a people of Scythia, on this side of Imaus, according to Phiny.

CACIQUES, in History, a denomination anciently given in America to governors of provinces and generals of armies. It was also appropriated to the sovereigns of the five great kingdoms into which the island of Hispaniola was divided when the Spaniards first visited it, and also to the sovereigns of the principalities or kingdoms in the other islands. Their power over the subject, which was hereditary, was absolute, and they were regarded with almost idolatrous veneration. Besides these, they were also subordinate chieftains, or princes, who were tributaries to the sovereign of each district. They seem to have somewhat resembled the ancient barons or feudatories of Europe; holding their poffessions by the tenure of service. Oviedo (lib. iii. c. 4.) relates, that they were under the obligation of personally attending the sovereign, both in peace and war, whenever they were so commanded. We have already observed, that the dignity of the Cacique was hereditary: but if Martyr is to be credited, the law of succession among them was different from that of all other people; for he observes (P. Martyr, decad. iii. lib. 9.) that the Caciques bequeathed the supreme authority to the children of their fathers, according to seniority, and disinherited their own offspring: being certain, as he further observes, that, by this policy, they preferred the blood-royal, which might not happen to be the case in advancing any of the children of their numerous wives. The account of Oviedo, however, is more probable; he remarks (lib. v. c. 3.) that one of the wives of each Cacique was particularly distinguished above the rest, and appears to have been considered.
filtered by the people as the reigning queen, and that her children, according to the priority of birth, succeeded to the father's honours; but, in default of issue by the favourite princes, the titles of the Cacique, if no brothers survived, took place of the Cacique's own children by his other wives. The principal Cacique was distinguished by regal ornaments, and numerous attendants. When he travelled through his dominions, he was commonly borne on men's shoulders; and he was held in such veneration, that if he ordered any of his subjects to call themselves headlong from a high rock, to drown themselves in the sea, merely at his own sovereign pleasure, he was obeyed without a murmur; opposition to the suprême authority being considered not only as unavoidable, but as impious. Their veneration extended even beyond death; for when a Cacique died, his body was embowelled, and dried in an oven, moderately heated, so that the bones and even the skin were preserved entire. The corpse was then placed in a cave with his ancestors; and thus they intended to render, not the name alone, but the person also, of their worthies immortal. If a Cacique died in battle, and the body could not be recovered, they composed songs in his praise, which they taught to their children, and these songs formed a branch of those solemnities which were called "Ariettes," confuting of hymns and public dances, accompanied with musical instruments made of shells, and a fort of drum, the sound of which was heard at a great distance. Martyr relates (Decad. iii. lib. 9.) that on the death of a Cacique, the most beloved of his wives was immolated at his funeral. But Oviedo (lib. v. c. 3.) denies that this custom was general among them.

CACOBE, in Ancient Geography, a people placed by Ptolemy in India, on this side of the Ganges.

CACOCHYMIA, from \*\*\*\*\*, bad, and \*\*\*\*, juice, or humour, a word formerly employed by medical writers to denote a suppuped morbid condition of the fluids of the living body.

CACODES, in the Ancient Writers of Medicine, a name given to several kinds of matter discharged from the human body, which had an ill smell. The offensive matter voided sometimes by vomit has this name, as also that evacuated by flood, and the discharge of foul ulcer.

CACOETHES, or Cacoethia. See Malignant.

CACONGO, in Geography, a kingdom of Africa, on the coast of Loango, situate between three considerable ports, much frequented by foreigners; viz. Loango, Cabinda, and Cacongo. The territory is in general flat, the air is more salubrious than that of Congro or Angola, and the soil also more fertile, on account of its frequent flowers, and its black mould, which, in the other adjacent kingdoms, is either chalky or sandy. The inhabitants are likewise more civilized, though not less superstition to the hallowed rites, than their neighbours. They bear the character of a treacherous, fraudulent, turbulent, and cowardly race; but they are much employed in traffic with the Europeans, and especially the Dutch, from whom they purchase a great variety of European goods, as coarse cloths, knit caps, huckeys, and other iron tools, linen, and other commodities, which they exchange for slaves at Congo, Angola, and other African states. This country is governed by its own hereditary princes, but under the protection of the kings of Loango, to whom they were formerly vassals, though they have since shaken off the yoke. The chief town is of the same name, and it is situated in S. lat. 4° 45'. E. long. 13°.

Cacongo, one of the chief rivers of the above kingdom, the others being the Kaja and the Cabinda. It runs 4 leagues S. of the Kaja, and 7 to the N. of the Cabinda, and is said to be navigable by boats of 10 tons burden. This river runs through almost the whole length of the kingdom from cap to cap, and after a course of about 80 or 90 miles, falls into the sea, near the town of Cacongo. About 4 miles from its mouth is the town, or rather village of Melchera, where the sea makes a kind of semicircular bay, which affords a convenient road for the vessels that traffic thither, the whole coast between the Cacongo and Zaire being extremely dangerous and full of rocks and shoals. The lands on each side are fertile and delightful, and abound with elephants' teeth, which the Membates, who are situated on the other side of the Zaire fetch and carry to the port of Pinda, where the Portugese, or any other Europeans, buy and export them.

CACOORS, in Botany, a species of Mimosa, which fee. The seeds of this plant are mentioned by fir Hans Sloane as being thrown ashore on the Hebrides and Orkneys. See Molucca Bean.

CACOPHONY, compounded of \*\*\*\*, evil, and \*\*\*\*, voice, in Grammar and Rhetoric, the meeting of two letters, or syllables, or even of two words, which yield an uncouth and disagreeable sound.

CACOPHONY, in Medicine, denotes a vice or depravation of the voice, or specch; of which there are two species, aphonia and dysphonia.

CACOPHONY, Gr. in Musi, the combination of many sounds ill chosen, or out of tune, noice.

CACORLA, in Geography, a little town in Spain, in the country of Jaen, belonging to the archbishop of Toledo, 4 leagues E. of Ubeda.

CACOSIN, a town of the island of Cuba, 50 miles N.N.W. of Bayamo.


Gen. Ch. Col. superior, bell-shaped, coloured, five-pointed, deciduous. Cor. petals five, harpy egg-shaped, inserted at the divisions of the calyx. Stam. filaments very long, inserted in the calyx below the insertion of the petals; anthers ovate. Fil. germ inferior, angular; style simple, as long as the filaments; stigma acute. Peric. a kind of berry, five-angled, somewhat spindle-shaped, almost woody, pulp within, covered with a white skin or aril.

Eff. Ch. Calyx bell-shaped, five-parted, bearing the corolla; petals five; berry five-angled, one-seeded; seed arillate.

Obs. Nearly allied to Combructum and Fuchia, but differing in the fruit.

Species, C. cocinea. A perennial shrub, with a stem about five or seven inches in diameter, branched, climbing to the top of the highest trees, from which its branches hang down, clothed with leaves and flowers. Leaves alternate, ovate, acuminate, very entire, veined, green, firm, with an even surface, on very short petioles. Flowers scarlet, fleshy, scattered in long terminal spikes, with a long flat pointed bracteate to each flower. La Marck. A native of Cayenne.

CACTI, the third natural order in the fourteenth clas of Jussieu, with the following character. Calyx superior, divided at the apex. Petals definite or indefinite, inserted at the top of the calyx. Stamens definite or indefinite, with the same insertion as the petals. Germ inferior, simple; style simple; stigma divided. Berry inferior, one-celled, many-seeded; the seeds attached to its inner surface. Stem shrubby or arborecent; leaves alternate or none. It contains only two genera, Ribe, with definite petals and stamens, and Cactus, with petals and stamens indefinite. Jussieu observes that
that these two genera, notwithstanding the difference in the number of their flowers and petals, are closely connected by their inferior growth, ring-like, and one-celled fruit, with the seeds attached to its inner surface, and that the affinity is strengthened by the similar structure of the spines in several of their species. It is matter of much importance to the Linnaean genus Cactus, containing Ribes as more properly belonging to the Saxifragae, but forming the connecting link between that order and Cactus. This able botanist has fallen into a flight absurdity in calling an order which contains only the genus Cactus, Cactoideae; which in fact is only saying that Cactus is like itself.

CACTUS, (κακτούς), Gr. the name of a plant derived first by Theophrastus, and afterwards by Dioscorides, Athenæus, and Pliny. Theophrastus, whom the succeeding writers have nearly copied, speaks of it as a plant not indigenous in Greece, and peculiar to Sicily, producing from the root several creeping stems, with a broad and prickly leaf, which, when stripped of their bark, are eaten either fresh or pickled; with an upright stem besides, which he says is called pteris, and is eaten fresh but not pickled; and having a prickly pericarp, called aecula, which is likewise edible when separated from the down of the seeds, and resembles the head of a palm. Most of the earlier modern botanists, supported by the authority of Athenæus, suppose it to be the same plant which the Greeks called κακτούς, and the Romans Cardius, the Cypris scolythus of Linnaeus, or common artichoke; but Bedzius a Stapel strongly infilts, that it must be another plant not ascertained by modern botanists. See his Notes on Theophrastus, p. 627—629, where he has corrected the corrupt texts of Theophrastus and Athenæus, by comparing them with each other, and with the Latin of Pliny. What are called by Theophrastus creeping stems, are probably nothing more than the strong midrib of the broad prickly leaves. Linn. gen. 613. Schreb. 838. Willden. 666. Gaert. 799. Juss. p. 311. Vent. vol. 3. 376. Clark and order, scefandria monogynia. Nat. ord. Suculenta Linna. Cact. Juss. Cactoideae Vent.

Gen. Ch. Cact, superior, imbricated, tubular, deciduous. Cor. petals numerous, disposed in several ranks; the outer ones shorter, the inner rather larger. Stam. filaments numerous, inserted into the calyx; anthers oblong. Pfd. germ inferior; style cylindric; stigma head, multifid. Peric. berry oblong, umbilicated at its summit, one-celled. Seeds numerous, bedded in pulp.


Obf. Linnaeus, on account of the conformity in the parts of fructification, has united in one genus a numerous tribe of succulent plants, differing greatly from each other, and many of them from all other plants, in their general structure and habit, which former botanists had distributed into separate genera, under the names of Melocactus, Cereus, Opuntia, and Perelkin. He observes, that Melocactus is monocotyledonous, and Opuntia dicotyledonous; but that nevertheless they are of the same natural genus. Jussieu mentions the circumstance on the authority of Linnaeus, but gives no farther information on the subject, referring the germination of Melocactus, as well as the existence and nature of the pericarp in all the Cacti, to future inquiry.

* Echinomelocatus, turks'-cap, or melon-thistles; of a roundish form, in some degree resembling a melon.

Species 1. C. mammillaris, smaller melon-thistle. Linn. Sp. Plant. (Echino-melocactus minor, Herm. Par. 356. Tab. 136. Ficoides, Plum. Alm. 184. tab. 29. f. 1. Comm. Hort. 1. p. 105. t. 55. Brad. furcul. 3. p. 11. tab. 19.) "Round, covered with ovate, beardcd tubercles." The body of the plant consists of a roundish fleshy substance, fleshy, about the size of a man's fist, without remarkable angles, but felfet on all sides with numerous conic tubercles, which are cottony at their summit, and terminated by small diverging spines. There is also a flight cottony down between the tubercles. The flowers are small, whitish, scattered about the plant between the tubercles. The berries are of a purplish blue colour, according to La Marek, but are said by Miller to be of a fine scarlet, and continue fresh upon the plant through the winter. They have an agreeable flavour, and are very good to eat, especially when properly dried. Bosc. A native of South America, among rocks. 2. C. gloriosa, clustered melon-thistle. La Marek. Plum. Sp. 19. tab. 201. f. 1. "Ovate, downy, compound, growing close together, with papillary tubercles." In several respects it resembles the preceding, but differs from it in growing several together in a close group, in its graceful colour, and very white abundant down, in its size, which does not exceed that of a puller's egg, and in the red colour of its flowers. Observed by Plummer at St. Domingo, and described by La Marek from his MSS. It appears to be the Calderon of Miller, though that is said by him to be rather larger than the mammillot. 3. C. melocactus, great melon-thistle. Linn. Sp. Pl. (Melocactus, Basm. Pm. 354. Tourn. 653. Echinomelocactus, Chl. Exot. tab. 92. Lob. ic. 2. p. 24. Brad. Succ. 4. p. 9. tab. 32.) "Roundish, with fourteen angles." A roundish mass, sometimes more than a yard in circumference, and in its native country almost twice as large; consisting internally of a soft, green, fleshy substance, full of moisture; deeply divided into fourteen or fifteen regular, smooth, flat-sided parts; at the edge of the ribs furnished with a row of clustered, flat, straight, diverging spines, about an inch long, and red at their summit. Flowers red, situated at the top of the plant. A native of South America. 4. C. corallinus, crowned melon-thistle. La Marek. "Ovate, with twenty angles; crowned with a cottony pilous cap." About a foot high, fleshy ribs oblong or a little spiral; their ridges beset with a row of clustered diverging spines, about six or seven lines long, and generally a little curved; cap three inches and a half in diameter, composed of a white, very close cottony down, intermixed with clusters of red spines, which are fless than the bristles of a bristil, but not prickly. A native of South America. 5. C. nobilis, noble melon-thistle. Linn. Mant. "Roundish, with fifteen angles; spines broad, recurved." This species seems to hold a middle space between the last two; but its external surface is entirely red. It varies in its form, being sometimes ovate or conic, and sometimes more globular. Its ribs are oblique or spiral, and its spines long, white as ivory, and a little curved. A native of St. Domingo, among rocks on the coast. Obf. Mr. Miller makes four distinct species of the great melon-thistle, and thinks that if the islands in the West Indies were examined, many more would be found. Prof. Delau Mark considers them as only varieties. La Marek has made three species which we have adopted: though from the description in different authors, it is not easy to determine which are species and which varieties. They grow from apertures in the steep sides of rocks in the hottest part of America, and seldom live long when transplanted into a better soil. In times of great

CACTUS.
great drought, the cattle rip them up with their horns, tear off the outside skin, and greedily devour the fleshy moist part. The fruit is an agreeable acid, and is frequently eaten in the West Indies. Miller.

**Ere'ct cactus**, supporting themselves. Torch-thistles, or torch-wood.

6. C. cylindraceus, cylindric torch-thistle. La Marck, Juffieu. “Erect, weak, cylindric, not angular, but reticulated on their surface, with decussated furrows.” La Marck. “Teffulated with regular, rhomb-shaped, little areas, bearing spines on their elevated center.” Juss. Spines clustered, whitish, very sharp. A native of Peru. 7. C. trigona, three-fidied torch-thistle. La Marck. (C. petaiia. Linn. Syst. Nat. Jacq. Americ. 151.) “Stem erect, triangular, with scarlet, leafy fruit.” Nearly allied to C. triangularis of the next division; but differs from it in having a stem, which supports itself to the height of eight or ten feet; and, though it ripes still higher when it obtains the support of a neighbouring tree, does not attach itself by any radicle. **Flower** whitish, six inches in diameter, with scarcely any smell, opening in the night. **Fruit** of a thinning scarlet colour on the outside, furnished with obtuse leaflets, which are irregularly notched at the summit; pulp white, fleshy, sweet; seeds small, black, thinning. A native of Carthage, and other parts of South America. There is a variety which has a ftraight trilateral stem, almost as thick as a man’s body, furnished with blackish, very sharp, clustered spines, about two inches long; dividing at the top into triangular, fleshy branches, of a delicate green colour, undulated, or scollipted at their angles, and difpofed in a large spreading panicule. From the upper branches rise large beautiful white flowers, a little odoruous, flanding on a stem, furnished with fome feafly leaves. The **fruit** is yellowish, smooth, of the form and fize of a large apple, with a white fweet pulp, filled with fmall blackish seeds. Observed by Plumier at St. Domingo. La Marck observes, that it may perhaps be diflinguished from Jacquin’s plant; but as they agree in fo many characteres, he has placed them together, that he may not multiply species without neceffity.

8. C.paniculatus, La Marck. (Melocactus arborecens, Plum. Sp. 19. Tournef. 653. Cactus brachiatius, Burm. Amer. tab. 192.) “Trunk erect, panicked at the summit with quadrangular, joined branches; parts round, white, marked with red lines; fruit tubercled, yellowish.” This plant, in its habit and fize, exactly refembles the variety of the preceding species; but the interior petals are feaerely larger than a finger nail, crenated, very white, pencilled with fmall red lines. **Stemmas** entirely white; fruit ovate, a little larger than a goat’s egg, with reddish fpinous tubercles, and full of fmall seeds of a dark chevetan colour. A native of St. Domingo, defcribed by La Marck from the MSS. of Plumier. 9. C. tetragona, four-fidied torch-thistle. Linn. Sp. Pl. “Quadrangular, long, erect; angles comprefled.” Stemm seldom more than four or five feet high, branched, deeply and widely cut in a longitudinal direction, fo as to give it the appearance of having four thin wings. A native of South America. 10. C. pentagonus, Linn. Sp. Pl. “Erect, long, jointed, with about five angles.” Stem slender, fceleb, but upright; internodes about a foot long; cluf ters of spines without any fteeful down at their base. A native of America. 11. C. hexagonus, Linn. Sp. Pl. (Cereus Surinamensis, Ephem. n. c. 3. p. 349. tab. 7 and 8.) Herm. Par. 116. Raj. Dendr. 23. C. maximus Americanus, Bradt. Succ. 1. p. 1. tab. 1. Melocactus, Plum. Sp. 19. Burm. Amer. tab. 191.) “Erect, long, with fix angles; angles diftant.” Stem thirty or forty feet high, not branched if the top be not injured, and it have room to grow; but whenever the stem is cut or injured, it puts out shoots from the angles, immediately under the wounded part, and frequently one or two lower down; thefe, if they are not cut off, form diftinct ilems, and grow upright, but are feldom so large as the principal stem. **Flowers** from the angles on the fide of the stem, as large as those of hollyhock, on a thick, fleshy, fealy, round, channelled, and hairy peduncle; calyx prickly, closely furrounding the corolla, green, with purple ftripes; inner petals white, and crenated at their extremity. Miller. A native of Surinam, whence it was introduced into Holland, and bore flowers in 1681. It was cultivated in England in 1690, and has been the molt common fort in the English fves, but has not borne fruit, nor often produced flowers. 12. C. heptagonus, Linn. Sp. Pl. “Erect, oblong, with seven angles.” Stem perennials, one or two feet high. A native of America. 13. C. repandus, Linn. Sp. Pl. Brown. Jan. 238. (Cereus altifimus gracilior, Sloan. Jan. 197. Hill. 2. p. 158. Raj. Dendr. 22. Trew. Ehret. t. 14.) “Erect, long, octagonal; angles comprefled, waved; spines longer than the wool.” Stem rather glaucous; spines intermixed with a yellow wool. **Flowers** greenish. Fruit about the fize of a walnut, red externally, and without spines. A native of Curafao. 15. C. rosenus, Linn. Sp. Pl. (Cereus Boer. Loc. 1. p. 263. Herm. 48. Par. 115.) “Erect, jointed, with nine angles; divifions between the joints somewhat egg-shaped; spines the length of the wool.” Perhaps only a variety of the preceding. Stem long; channels between the angles shallow, woody, and very fpinous; spines long, and yellowish; down pale white. Fruit red, and without spines. A native of America. 16. C. peru-vianus, Linn. Spec. Pl. (Cereus peruvianus, Bauh. Pfl. 458. Lob. c. 2. p. 25. Cierge epineux, Act. Acad. 1516. p. 146.) “Erect, long, with about eight angles; angles obtuse.” Stem branched in its upper part; angles furnished with fmall clusters of brown, very fdehyde, diverging spines, proceeding from a cotony tuft. **Flowers** lateral, almost fellite, solitary, whitifh, five or fix inches in diameter; fcales of the calyx fleshy, green, purplifh at their extremity; petals about thirty, lanceolate, white, with a tint of bright purpl in their fummit; flamen very numerous, fhorter than the petals; anthers yellow; flyle the length of the flamen; stigma with ten ftrait divisions. There is now, or at leaft in 1803, there was growing at the Mu feum of Natural History in Paris, a fupcrb plant of this species near forty feet high. It was prefented more than a hundred years ago, by Hotton profecor of botany at Leyden to Pagon infirphysician to Lewis XIV., and Superintendent of the royal garden, when it was only four or five inches high. The growth of each year is diftinguifhed by a contrac tion of the stem; each of these contractions is at firft very deep, and remains nearly the fame for five years, when it gradually diminishes, and at length is entirely obliterated. This plant grew at firft about a foot and a half in a year, and when it was fourteen years old was twenty-three feet high and feven inches in diameter. At the age of eleven it produced its firft two branches, about three feet from the ground. A year after it produced its firft flowers, and has continued to flower ever since. See Dic. Agric. Nouv. Encyclopédie. A native of Peru 17. C. similis, La Marck. Burm. Amer. tab. 195. f. 1. “Erect, long, with
with about eight angles; petals fringed, fruit spinous, scarlet." Steins growing many together, about the thickness of a man's thigh, and from eighteen to twenty feet high; conic and very spinous at their summit, befit at their angles with clusters of white, long, very sharp spines. Flowers at the summit of the stem, rather large; style much longer than the stamens. Fruit globular, fleshy, nearly the size of an orange, of a bright shining red colour, rough with tubercles and armed with whitish, sharp spines; flesh of a flame colour, very tender, of an agreeable, acidulous flavour, and filled with numerous black seeds. La Marck from the MSS. of Plumer: A native of St. Domingo. 13. C. polygona, La Marck. Burm. Americ. tab. 156. "Erect, branched, with eleven angles; fruit sappy, red." This species is nearly allied to C. repandus, but is distinguished from it by the number of its angles, and by the red colour of its fruit, and of the down on its summit. Stem perennial, about ten feet high, and fix or seven inches in diameter; angles waved, and befit with clusters of small spines: bark greyish, thick, covering a woody substance nearly as durable as oak, with an abundant, succulent, greenish pith. Branches from the summit of the stem, straight, long, a little larger than a man's arm, fleshy, greenish, with angles and spines similar to those of the stem, terminating in the shape of a cone and cloathed near the summit with a very red woollly down. Flowers growing near the summit, solitary, white, about the size of a crown piece. Fruit fleshy, the shape and size of a fig, reddish brown without, succulent, nearly inipid, feeds small, black. La Marck from the MSS. of Plumer: A native of St. Domingo. 19. C. menarum, Encye. Diction. Agricul. Bof. Nouv. Dict. Thierry de Menoville, Traité de la Culture du Nepal 1786. "Erect, with many angles, branched; fruit without spines, fleshy, brown without, red within." Nearly allied to the preceding, but less in size, not so much branched or spinous, and of a darker green colour. Flowers red. A native of Guazaca and Thegsuanc in South America, where it is known by the name of Pitabiah; and is greatly esteemed by the natives on account of its delicious fruit. Linneas has applied the same name to a very different species, which La Marck, whom in this instance we have followed, has called trigonus. 20. C. aurantiiformis, Encye. Díct. Agricul. Bof. Thierry. "Erect, with many angles, branched; fruit spheric, gold-coloured." Habit of the preceding. Flowers white. Fruit containing a white, inipid, but refreshing pulp. A native of St. Domingo. 21. C. divaricatus, La Marck. (Milocætus, Plum. Spec. 19. Burm. Am. tab. 193.) "Very spinous; trunk erect, frilated, branched at the top; branches straight, frilated, standing out on all sides; fruit gold-coloured, tubercled." Stem a little thicker than a man's thigh, three or four feet high, greenish; formidabley armed with numerous, very sharp, diverging spines. Flowers lateral, near the summits of the branches. Fruit globular, a little larger than a man's fist; pulp white, sweetish; feeds small, brown. A native of St. Domingo.

*Creeping Cereus with lateral roots. 22. C. grandiflorus, great or night-flowering, creeeping cereus, Linn. Spec. Plant. (Cereus candelas minor, Miller Icon. Tab. 69. C. gravilis scandens ramosus, flor ingenti, &c. Trew. Ehr. Tab. 31, 32. Eph. Nat. Cur. 1752, vol. ix. app. 184. Tab. 11, 12, 13. C. americanus, major articulateus, Volk. Hepf. t. 133-134.) "Creeeping, with about five angles." Stem cylindric, branched, greenish; angles not very prominent; spines small, clustered, diverging. Flowers lateral, about six inches, sometimes near a foot in diameter, sweet-scented; calyx large, long, tubular, fleshy below, composed in its upper part of straight, linear, pointed, yellowish leaflets, dissipated in several rows, and forming a kind of ray to the flower; petals white, numerous, lanceolate, dissipated in several rows, in a beautiful rosaceous form; style a little longer than the stamens; stigma with twenty divisions. The flowers begin to open between seven and eight o'clock in the evening, usually in the month of July, are fully blown by eleven, and by three or four in the morning they begin to fade, and soon after hang down in a state of irrecoverable decay. The plants are large, several flowers will open in the same night, and these will be a succession of them for several nights together. Fruit a little larger than a goose's egg, covered with scaly tubercles, fleshy, orange or red, of an agreeable acid flavour; feeds very small. A native of Jamaica, Vera Cruz, and St. Domingo. 23. C. flagelliformis, pink-flowered, creeeping cereus. Linn. Spec. Pl. Kniph. Cent. 1. Tab. 12. Knorr. Del. 1. f. 8. Curtis Bot. Mag. 17. 54. (Cereus minor scandens, flor purpureo, Ehr. Sel. 2. f. 2. Trev. Ehrb. t. 30. Ficoides Americanum, Pluk. Alm. 148. t. 158. f. 6. Sloane Jam. 197. Hilt. 2. p. 258.) "Creeeping, with ten angles." Stem cylindric, channelled, about the size of a man's little finger, from three to five feet long; spines numerous, wak, clustered, proceeding from elevated points or tubercles. Flowers lateral, fesile, oblong, of a lively pink colour; calyx coloured, tubular, its lower part composed of small, straight, sharp scales; petals and upper leaves of the calyx oblong, acuminate, of a similar colour, and distinguished from each other only by their size; stamens the length of the interior petals; filaments very white; anthers small, yellow; style the length of the stamens, stigma scarcely divided. It produces more flowers than the preceding species, which keep open three or four days, if they have not too much warmth. The fruit had been produced, but not ripened, at Chelsea, in the time of Mr. Miller. A native of the warmer climates of South America. 24. C. paraditicus. Parafitic creeeping cereus. Linn. Spec. Pl. "Creeping, round, frilated, without spines." Professors Martyn supposes it to be the root of some species of Epidemenum, but La Marck gives the following synonyms and description. Cacus repens parafiticus inermis aphyllus, ramosus, propendens. Burn. Jam. 238. Opuntia minima, Plum. Sp. 6. Burm. Amer. tab. 197. f. 2. Steins fender, cylindric, jointed, branched, clinging or pendant from the trunks of large trees: when young befit with prickles, but losing them when old, and retaining only the remnants of them, which form greyish, fleshy tubercles. Flowers small, lateral, fesile: Fruit not so large as an common pea. A native of St. Domingo. 25. C. pendulus, flender, creeeping cereus, Willden. Martyn, Swartz. 77. Burm. Jan. 238. (Caffytha bacefera, I. Mil. Illut. Caffytha polyperma, Ait. Cat. Hort. Kew. Rhipalais Caffytha, Gart. t. p. 137. Tab. 28. f. 1.) "Branches in whorls, round, smooth, without spines." A native of Jamaica, hanging from the largest trees to the length of two or three feet. Gartner observes that, though Sir Joseph Banks had hinted to him in a letter that it ought to be referred to the genus cacus, he was induced to keep it separate, because the embryo of cactus is lightly spiral, and the albumen of the seed farinaeous; whereas there is no albumen in this, and the embryo fills the whole cavity of the seed. 26. C. triangularis, triangular creeeping cereus, Linn. Sp. Pl. Brown. Jam. 468. Jacq. Amer. 152. 75. Afl. Hdlv. 5. 268. t. 2. (Cereus Brul. Succ. 1. p. 4 t. 3. Eph. Nat. Cur. 1752. v. ix. app. 109. tab. 10. f. 14. 1754. v. ix. app. 340. t. 3. Ficoides, Pluk. Alm. 147. t. 29. f. 3.) "Creeping, triangular," Perennial. Steins long, climbing up trees, and
CACTUS.

and supporting themselves by lateral roots, branched, twisted, jointed, oblong, fleshy, near three inches in diameter, contracted at the joints, with small clusters of short spines on their edges. Flowers large, white, lateral, solitary; the lower and tubular part of the calyx confining of short scales, green at their base, and reddish at their summit; the others longer and sharper, with a yellowish point. Fruit ovate, the size of a goose's egg, red without, and within marked with projecting tubercles, which are the remnants of the fallen scales of the calyx, superior in flavour to that of any other species. A native of the Antilles, Jamaica, Guiana, and Brazil. It is cultivated in the island of Barbadoes for the sake of its fruit. There is a variety with more scaly fruit, red without and white within, of a sweetish but less pleasing taste.

Off. The plants of this and the preceding division have been called Cereus from cera, wax, on account of the fancied resemblance of the limbs of some of the species to a wax candle; and torch thistles, or torch wood, because the Indians use them as flambeaux. The very improper appellation of thistles is derived from their prickles.

**** Opuntias, Indian figs, or prickly pears, composed of articulated divisions growing one upon another, and commonly compressed or flattened at their sides. These plants are said to be proliferous, because the parts of the stem are separated from each other by so deep a contraction, that they seem rather distinct individuals than ramifications of the same plant. 27. C. moniliformis. Necklace Indian fig, Linn. Sp. Pl. (Melocactus, Plun. Sp. 19. i. 168. Burn. Am. tab. 198.) "Proliferously jointed, divisions globular, spinous, gomernate." From the root, which is reddish, branched, and rather woody, there springs first a globular stem about the size of a green walnut, fleshy, tender, of a lively green, and beft with long, brown, sharp spines; from this globe soon proceed two others exactly similar, each of which produces two others, and so on successively, till the whole forms an affemblage of globes, spread on the ground, and united together like the pearls of a necklace. Flowers on the upper globular divisions red, solitary, sessile. Calyx furnished with acute scales at its base; style much longer than the petals. Fruit bright red, a little larger than a pigeon's egg; pulp white, tender, of a pleasant acidulous taste. Seeds small, of a gold colour. La Marck from the MSS. of Plunier. 28. C. opuntia, common Indian fig, or prickly pear, Linn. Sp. Pl. Brown Jam. 237. n. 2. Allion Pied. n. 1932. Plenck. Ic. t. 173. Gott. t. 138. f. 3. La Marck Illust. Pl. 114. (Opuntia vulgaris, Buhl. Hist. i. p. 154. Mil. Icon. 191. Tourn. 239. Plum. Sp. 6. Hall. Helvet. ii. 1909. Ficus indica, L. Ic. ii. p. 241.) "Proliferously jointed; divisions ovate, compressed, spines bristle-flapped." Six or eight feet high. Divisions about a foot long, eight inches broad, and one inch thick, fleshy, rounded at their edges, green, firm, attenuated at their base, appearing rather like leaves than divisions of the same flem, and having been sometimes, but erroneously, so called. As the plant grows old, the lower divisions incroace more in thickness than in length and breadth; and the joints swell and enlarge till they equal the other parts of the stem, and form a cylindrical trunk. The lower divisions sometimes hang down so as to touch the ground, and take root one after another, till at length a large space is covered by a single plant. The young ones have on their surface numerous fleshy, cylindrical, pointed protuberances, several lines in length, and at least one line in diameter, which do not remain more than two months, and are succeeded by clusters of spines. These are considered by La Marck as proper leaves, but are said by Lancry (Encyc. Dict. Agricul.), to be rather rudiments of leaves. Flowers yellowish, generally on the upper edge of the divisions, but sometimes on their sides; petals about ten; ovate-wedge-shaped; stamens not longer than the petals, irritable, when touched, before they shed their pollen; stigma with from five to ten divisions. Fruit nearly the shape of a fig, generally of a deep red colour, enclosing a red succulent, sweetish pulp, which is laid to make the urine of those who eat it red blood, without producing any other sensible effect. A native of America, like all the other species, but is now naturalized in many parts of the south of Europe, and on the coast of Barbary. A variety of it is found in America, as far north as Nova Scotia and Newfoundland, which is larger than the common sort, and armed with stronger spines; the fruit alto is much larger, and of a deeper purple colour, the divisions rounder and more compressed, and the whole plant more upright. Mr. Miller's figure is taken from a specimen of this variety sent him by Mr. Peter Collinson. 29. C. Ficus indica, Linn. Sp. Pl. oblong Indian fig. (Opuntia folio oblongo media, Tourn. 239.) "Proliferously jointed, divisions ovate-oblong, spines bristle-flapped." This has the branches growing more upright than the former, and has longer spines; the fruit is also larger and of a deeper purple colour. It is the most common sort in Jamaica. 30. C. tuna, Linn. Sp. great Indian fig. (Opuntia major validissima fimbriata, Tourn. 239. Sloane Jam. 103. Hift. ii. p. 149. t. 344. f. 1. Tuna major, Dill. Eft. 396. t. 295. f. 380.) "Proliferously jointed; divisions ovate-oblong; spines awl-flapped." This has stronger branches than the preceding, with larger whita spines. The flowers are bright yellow. There is a variety with strong black spines and purplish fruit. La Marck considers the latter the two only varieties of C. opuntia, and adds, as another variety, the opuntia miniata folio frutetudo of Tournefort, which is rarely more than half a foot high, with divisions two or three inches broad, and few spines. 31. C. coccinellifer, Cochinchine Indian fig, Linn. Sp. Pl. Brown Jam. 237. (Opuntia maxima, Sloane Jam. 194. Hift. ii. p. 152. t. 8. f. 1. 2. Tuna, Dill. Eft. 399. t. 297. f. 383. Ficus indica, Plun. Alm. 146. t. 381. f. 2.) "Proliferously jointed; divisions ovatc-oblong, nearly without thorns." About fix feet high. Divisions a foot long, five or six inches broad, and near two inches thick; spines few and harmless. Flowers few, blood-red; stamens longer than the petals, by which it is decisively distinguished from the last three species. A native of Mexico and other parts of South America. This species is said by Linneus, and has been generally supposed by others, to be the plant on which the Cochinneal insect feeds; but Thiery de Mounville is of a different opinion, founded on his personal observations at Mexico. 32. C. tufulideus crassus, tortoise-leg Indian fig, Thiery. "Proliferously jointed; divisions oblong, compressed, but in a zigzag manner, woody; spines numerous, very large, white; fruit spherical, green." In the course of a year it will grow to the height of ten feet, and produce thirty shoots; and in three or four years acquires the size of a tree. Divisions situated perpendicularly one upon another, and so bent as to produce, in the ideas of the colonists, a resemblance of the paws of a tortoise in the act of walking. Flowers aurora-coloured. Fruit unpleasantly acid. A native of Yerel places in St. Domingo. 33. C. luteus, yellow Indian fig, Thiery. "Proliferously jointed; divisions compressed, ovate; woody, nearly without spines; flower and fruit yellow; petals spreading." A beautiful plant growing to the size of a tree. Fruit egg-shaped, of an agreeable flavour. 34. C. compeckianus, Thiery. "Proliferously jointed; divisions compressed, oblong, woody, with few spines; flower and fruit red; style longer than the stamens and petals;
petals convolute." Smaller than the last two. *Divisum* obovatum, dark green, smooth, thinning; spines not more than two together. Petals of a bright reddish purple colour; stigma sulphur-coloured, with six divisions. Fruit the size of a pigeon's egg, truncate at the summit, blood-red throughout, rather hard, armed with spines. A native of St. Domingo. 35. *C. fistulosus*, wild cochineal Indian fig, Thierry. "Proliferously jointed; divisions compressed, very spiny; flower and fruit red; petals spreading." Not rising into a tree, and seldom excelling eighteen or twenty feet in height. *Divisum* pale green or yellowish, from ten to fifteen inches long, and from five to ten broad; spines white, from ten to fifteen in a cluster, crossing each other so as almost to cover the surface. Fruit the size of a walnut. A native of the inner parts of Mexico, and the most common species from Tehuacan to Guazacua. The wild cochineal infect feeds on all the four preceding, but is most fond of the last; and is found on it in such numbers as to destroy whole divisions, and, in the opinion of Thierry, to prevent its growing to its full size. 36. *C. splendidus*, superb Indian fig, Thierry. "Proliferously articulate; woody, very large; divisions ample, oblong, glaucous; those formed in the third years, spiny; the younger ones nearly unarmed: spines rigid and pungent." A large tree. *Divisum* numerous, thirty inches long, from twelve to fifteen, and even twenty broad, befet with tufts of luff, red bristles, which are very spreading, and easily infuse into the skin, so as to become very troublesome when neglected. In the older divisions these tufts are accompanied by three spines of unequal size, very strong and sharp: the others have rarely more than one or two, and often none. The beautiful glaucous colour of this species, its immense size, the vigorous and rich hues of its vegetation, with the number and amplitude of its divisions, render it, the most striking and magnificent of all its family, and give it, in Thierry's opinion, a j u x t a right to the epithet superb. This active naturalist never saw either the flower or the fruit, but was informed at Mexico, that the latter is delicious. It is not a native of Mexico, but is cultivated there solely for its fruit. Monf. Thierry brought it from Mexico to St. Domingo, and is convinced by experiments, made for three successive years, that it is equal to the *C. nopal* as a food for the true cochineal insect of the merchant and dyer. 37. *C. nopal*, Thierry. True cochineal Indian fig. "Proliferously jointed, woody; divisions compressed, ovate-oblung, perfectly smooth, green; those formed in the third years spiny; the younger ones nearly unarmed; spines rigid and pungent." Very similar to the splendids, from which it seems to differ, chiefly in colour. Monf. Thierry de Menonville is, however, well aware from all his inquiries and observations made on the spot, that this is the only species on which the true cochineal insect is bred in Mexico. He is persuaded that it does not grow wild in this country, and supposes that it is a variety of some unknown species, brought by cultivation to its present state of perfection. It differs from the *C. cocinellina* of Linnaeus and other native in being always found with spiny sharp spines. The latter is also said to grow wild in Jamaica, where *C. nopal* is entirely unknown. 38. *C. coriaceus*, coriaceous, or leaf Indian fig, or pinillow. Linna. Sp. Pl. (Opuntia minima Br. Druce. t. p. 5. f. 4. *Pitcairina indica*, Com. hort. t. p. 107.) 55. *Pluck. alc. 147. t. 201. f. 3.) "Proliferously jointed; slightly compressed, almost cylindric, lying in the middle." *Divisum* about three feet long, feble, and unable to support themselves, taking root as they lie on the ground, furnished with numerous clusters of white, sharp, slender spines. It is called pinillow in the West Indies from the resemblance of its branches to a pin- eusions stub full of pins. It flowered once at Badmington in the collection of the late duchess of Beaufort, and produced a yellow flower, but did not ripen its fruit. Said to be a native of Curasia. 39. *C. spinofragilis*, clusfer spined Indian fig. Wild. Att. Kew. 2. p. 158. *Mart. Hort. Can- tab. 89. La Mareck. en. 1. p. 557. *C. spinofragilis*, clusfer spined Indian fig. "Fruit feebly erct, compressed; divisions compressed, disposed crosswise; spines very numerous, long, yellowish." Nearly allied to *C. di- varicatus*, with which it would perhaps have been better associated, notwithstanding its compressed divisions. Stem from three to five feet high, not channelled or angular, producing near its summit, oblong, much compressed branches, in a cruciform direction, or making nearly right angles with each other; spines very slender in numerous clusters, each of which proceeds from a tubercle, and consists of two heads of spines; the lower ones long, few in number, and diverging; the upper ones small, numerous, and collected into a bundle like the hairs of a pencil. A native of Jamaica. 40. *C. phyllanthus*, spleen-wort-leafed Indian fig. Linn. Sp. Pl. Brown jam. 237. (Cereus, Dill. en. 73. t. 64. f. 7. 1. Opuntia, Sloan. jam. 216. hift. 2. p. 159. Phyllanthus, Pluck. alc. 295. t. 237. f. 5.) "Proliferous, evenflowed, compressed, fperate-repand." Distinguish from all the other species by its peculiar form. Divisions of the stem fword-shaped, much compressed, fcelle, about two inches broad, and from two to four feet long, bordered by large, rounded, indentures, and traversed longitudinally by a thick, cylindric nerve, so as to bear some resemblance to the leaves of focependium: spines none. Flowers in the indentes at the edges of the divisions, and at the summit, whites: calyx long, fnder, curved, greenish, fefet with fattered fcales. Fruit ecleul, bright red, with eight ribs, and fefy tubercles; pule white; feds black. A native of South America.

*Obj.* Professor Martyn has followed Willdenow in admitting a species on the authority of Swartz, which they call alatus: but it is evident from the description that it is no other than *C. phyllanthus*. Willdenow has most incantiously applied to both the synonym of Brown, (Jam. 237,) and has even transcribed it twice at full length, at the distance of only ten lines.

**** Furnished with true leaves.

The species placed under this section are totally different in habit from all the preceding, having not only real leaves, but items and branches similar to those of other trees and shrubs.


**C. por-
CACTUS.

C. portulaceifolius, Linn. Spec. (Opuntia, Plum. Sp. 6. ic. 197. fig. 1.) "Stem round, woody, spinous; leaves wedge-shaped, retuse." About the size of a common apple-tree. *Trunk* the thickness of a man's thigh, with spreading, spinous branches. *Leaves* alternate, in size and convenience like those of *C. peregrina*; with a solitary spine at the base, a little longer than the clustered ones on the branches. *Flowers* at the ends of the upper branches, probably monoicous, purplish, roseaceous; petals rounded, a little larger than a finger nail. *Fruit* globular, about the size of a common apple, without the tufts of leaves which are found on *C. peregrina*, greenish, with a whitish, mucilaginous, acid pulp. *Seeds* numerous, dark-coloured.

All the known species are perennial.

**CACTUS,** in Gardening, comprehends different curious plants of the succulent exotic kinds, of strange and singular growths, cultivated in this climate for curiosity in flowers and green-houses. They may be divided into the melon-thistle, the torch-thistle, and creeping cactus, and the Indian fig kinds. The species principally cultivated in the first fort, are *C. mammillaris*, smaller caust, or melon-thistle; *C. maho-caust*, melo-caust, great melon-thistle, or turks' cap. In the second kind, *C. tetraphactus*, four-angled upright cactus, or torch-thistle; *C. fuchsius*, five-angled upright torch-thistle; *C. hexagonus*, six angled torch-thistle; *C. heptagonus*, seven-angled upright torch-thistle; *C. repandus*, thresher upright torch-thistle; *C. languiences*, woolly upright torch-thistle; *C. peruvianis*, Peruvian upright torch-thistle; *C. royanii*, Rohey's upright torch-thistle; *C. grandiflorus*, great flowering cactus; *C. flagelliformis*, pink flowering cactus; *C. triangularis*, triangular cactus; or strawberry pear. And in the third fort, *C. megalanthus*, common Indian fig; or prickly pear; *C. ficus indica*, oblong Indian fig; *C. tunas*, great Indian fig, or prickly pear; *C. coccinellus*, cochinile Indian fig; *C. cactiflorus*, cactus; leaf Indian fig, or pin-pillow; *C. spinos interfusus*, clustered Spanish Indian fig; *C. phyllanthus*, spikenwort-leaved Indian fig; *C. aloates*, narrow jointed Indian fig; *C. manilliflorus*, neck-lace Indian fig; *C. perforata*, Barbadoes gooseberry.

The two first forts are plants of a very singular structure, having much the form of a large melon, without stems, branches, or leaves, sitting in a close manner to the surface of the earth, and differing in height from a foot to a yard, being deeply ribbed longitudinally in some forts, and in all closely armed with strong spines. They are perennial, both in root and top, continuing many years; affording ornament and variety in the flowers of hot-houses. Each species has several varieties.

The second fort also affords plants of highly curious succulent growths, in some of the species and varieties rising to a considerable height, and producing flowers of great beauty; and in others creeping or trailing to some distance, or hanging down over the sides of the pots that contain them—affording much variety in this way, as well as by their elegant and curious flowers, especially in some of the kinds, as the *grandiflorus*, and some others. The five-angled torch-thistle, and smaller creeping cactus, are the least tender.

In the third fort, the plants are likewise highly curious from their flabby succulent jointed growths, and being beft with sharp spines; in many of the kinds most of the species, except the first, are less hardy than those of any of the other two kinds. They, however, produce much variety in flower collections among other plants of similar growths.

**Method of Culture in the Melon-Thistle Kind.**

These plants may be increased with facility, either by fowing the seeds in pots of light sandy earth, and plunging them in the bark bed; when, after the plants have advanced a little in growth, they should be pricked out into separate very small pots, and plunging them in the bark bed, where they mayly make great progress, though it is often some years before they acquire any considerable size or growth; or by setting the young plants which issue from the sides of the old ones in pots of the same sort of earth, in the spring or autumn, managing them in the same way as those raised from seeds. But in order to have large plants at once, they may be procured from the West Indies in tubs of dry compact rubbish, care being taken to guard them well from cold and moisture. On their arrival they should be planted out in pots, and plunged in the bark bed till perfectly rooted, and become strong plants.

These plants should always be placed upon the tops of the flies or shelves of the hot-houses in winter, and in the bark beds in summer; very moderate waterings being given in very hot weather, but none at all in the winter season, as they are very succulent plants, and quickly rot by moisture.

**Method of Culture in the Torch-thistle Kind.**

These plants are constantly increased by planting the cuttings of branches, which have been laid in a dry place some weeks for the moisture to exhale, and the wounded parts to be healed over, in small pots in the summer season, filled with a compost constituted of one third light earth, the same quantities of sea-sand and sifted lime rubbish, well mixed together for some length of time before it is made use of, plunging them in the bark hot-bed of the flow; some rather coarse gravel or shells being previously placed in the bottoms of the pots to prevent the flagging of the moisture.

In the upright forts, the cuttings for this use may be provided by taking off the tops of such kinds as are wanted; the plants afterwards throwing out shoots below, so as to furnish plentiful supplies annually. But in the creeping forts, as there are various flanks and branches, these may be taken off in cuttings of from three to five or six inches in length, and be planted out in the same manner as the above.

About the beginning or middle of August, the plants, after being raised in this manner, should have air given them by degrees, in order to harden them against winter, but not be wholly exposed either to it, or the sun; and towards the end of September removed into the flow, or green-houfe, for the winter, during which season they must not have much water. The young plants should constantly have a dry situation in winter, as they imbibe the greatest part of their nourishment from the air, in order to prevent their roots from rotting; and should not be exposed in the open air, even in summer, unless under shelter, as rains are very injurious to them. Nor should the creeping forts be exposed too much to the open air, even in the hottest seasons; but, if they be designed to flower in winter, be kept very warm, and have no water given them at that period.

The great flowering creeping cactus, being a tender plant, requires a warm flow to protect it, in which it may be trained against the walls, or upon flicks. But the five-angled, and small fort, with pink-coloured leaves, are not so tender, being capable of being preferred in a good greenhouse, or when placed under a hot-bed frame, in the autumn, winter, and very early spring months.

**Method of Culture in the Indian Fig Kind.**

These plants are capable of being readily increased during the early summer months, by cuttings of the joints of the branches taken off, and planted in pots of light sandy compost.
post. These cuttings, previous to planting, should, as in
the other farts, be laid in a dry place, ten or fifteen days,
to heal over the cut parts; and the hot-house kinds, by be-
ing then plunged in the bark-bed, or other hot-bed, will be
greatly promoted in their rooting; but the green-house
fort, or common spinula, really strikes root without, though
it is greatly forwarded by such assistance. They all require
the earth to be occasionally moistened a little. In the summer
season, they likewise often require water, but it must not be
given in large quantities, lest it rot them; and in winter, it
should be proportioned to the warmth of the house; as, if
the air be kept very warm, they require to be often refres-
hed with a very little to prevent the branches shrinking: but if
kept in only a moderate degree of warmth, little is neces-
fary. The heat in which they thrive best is that marked
in temperate on botanical thermometers, as when kept too
warm in winter, it causes their shoots to be very weak and
tender. The farts which are inclined to grow upright
should have their branches supported with stakes, to prevent
their being broken down with their own weight. Plants of
this furt are mostly exposed to the open air in the summer
season; but they thrive much better when continued in the
flowers, provided they have free air; as when set abroad, the
rains much diminish their beauty, retard their growth,
and prevent their producing flowers and fruit in such
plenty, as when constantly kept protected in the house.

Cactus, in Natural History, a species of Madrepora,
with compressed, divergent, dichotomous, branches, carna-
nated at the margin, and fides continguously exteml, found
only in a fossil state. Forth. Ph. Arab.

Cacule, in the Materia Medica, a name given by
Avicenna, Serazio, and all the other Arabian writers, to
the cardamon seeds. They distinguished two kinds of this
fruit, a larger and a smaller. The larger is the grain of
paradise, and the smaller the common cardamon feed of
these times. They also called the cardamoms in general
by the name hell, and distinguished the small kind, now
principally in use, by the word billahe, which after-writers
corrupted into billave and billoua, or helvea.

Caculo, in Geography, a small town of Africa, near
the river Paleme, on its eastern bank. N. lat. 15° 56'.
W. long. 15° 20'.

Cacus, in Entomology, a species of Sphinx, with
black, indented wings, marked with three pale approximate
flarks; polliar pair black flattered with black. Cramer,
&c. Inhabitants Sumner.

Cacus, in Fabulous History and Mythology, the son of
Vulcan, represented by Virgil as a monster, half man and
half fator, and of an enormous height, discharging from his
mouth flames of flame. The fable reports that Hercules,
after the defeat of Geryon, conducted his herd
along the banks of the Tiber, and whilst they were feeding
fell asleep. In the mean while Cacus stole away eight
cows, and, in order to escape detection, drew them back-
wards by their tails into his den on mount Aventine.
When Hercules determined to quit these fartsures, the low-
ing of those bulls which remained was answered by that of
the cows which Cacus had stolen, and thus the theft was
discovered. Hercules ran with great fury towards the
cavern; but found its entrance closed by a large rock,
which was suspended by chains of iron forged by Vulcan.
However, he removed the rock and found his way into the
den amidst the flames and smoke vomitot by the monster,
seized him by the throat, and struggled him. In memory
of this victory, the inhabitants of mount Aventine observed
a yearly festival in honour of heroes. The Latin poets
have emulated one another in celebrating this defeat of
Cacus. The den of Cacus, says Bryant (Analysis of An-
cient Mythology, Vol. II. p. 22), was properly Cacbus,
the cavern or temple of Chus; from which the poets and
later historians have formed a strange personage, whom they
represented as a shepherd, and the son of Vulcan. There
certainly, he says, stood a temple of old upon the Aventine
mountain in Latium, which was the terror of the neigh-
bourhood. The etiologies of the priests, and their con-
tinual deprivations, may be inferred from the history of
Cocus. Virgil (Ec. lib. viii. v. 190, &c.) says Evander
defers the place to Aneas, though it is supposed in his
time to have been in ruins. Livy (lib. i. c. 7) mentions
Cocus as a shepherd, and a person of great strength and
violence. He is also mentioned by Plutarch (in Amatorios,
vol. ii. p. 762) as vomiting fire and flames from his mouth.
As in temples of this fort there were both priests and
priestesses, we read of a Cocus and a Caca. The latter
was supposed to have been a goddes who was made a deity
for having betrayed her brother to Hercules. Lacontius de
Falca Religionio, apud Inustit. lib. 1. c. 20. The learned
Bryant adds, that, under the charaters of Caca and Cacus,
we have a history of Cacidian priests, who seem to have been
a set of people devoted to rape and murder.

Cacuthis, in Ancient Geography, a river of India,
which, according to Arrian, discharged itself into the
Ganges.

Cacyparis, a river of Sicily, on the eastern coast,
between Syracuse and Helorim.

Cacyron, a town placed by Ptolemy in the interior
part of Sicily. The inhabitants are called by Pliny Cacyrini.

Cada Water, a river of Scotland, which runs into
Loch Fine; 9 miles S. W. of Inverary.

Cadaba, in Botany, La Marek Encyc. Forth.
Egypt. 63. (Streitida, Wilidd. 356. Vahl, Svm. l. p. 20.)
Claris and order, gendria pentandra Forth. Pentandra mo-

Gen. Ch. Calys four-leaved, spreading, deciduous. Cor-
petals four or none; claves filiform, the length of the calyx,
situated on the receptacle of the calyx, two on each side;
poles lanceolate, waved. Nel. tubular-ligulate, situated
between the upper division of the calyx and the receptacle
of the fructification. Stam. filaments five or four, inerited
on the peduncle of the germ; anthers upright. Pyr. germ
superior, cylinic, pedicelled; style none; stigma simple.
Peric. capsule pedicelled, cylinic, one-celled, two-valved;
valves revolute. Seeds numerous, kidney-shaped, disporfed
in three rows in a kind of pulp.

pedicelled, pulpy.

Obft. It resembles capparis in its pulpy capsules, and
cloee in its flowers. Its gynandrous flamen and tubular
ligulate nectary dillingu it from the former, and its fruit
from the latter. Vahl and Willdenow call the pericarp a
berry; Jussieu considers it as a fiqule. La Marek files it
both a fiqule and a capsule within the compafs of a few lines.
Its valvular structure is inconsistent with the effential charac-
ter of a berry; and the situation of its seeds does not cor-
respond with the definition of a fiqule: it is therefore properly
a capsule. We have preferred Forskall's original generic
name to that afterwards adopted by Vahl. If there be no
strong reason to the contrary, the right of priority should
always be respected.

Sp. 1. C. indicus, La Marek. (Cleome fruticosa: Linn.
Vahl.) "Leaves obovate egg-shaped, smooth; flowers te-
trandrous." A shrub. Stem cylinic, branched. Leaves
entire, alternate, petioled, sometimes obuse and sometimes
rather pointed, an inch long, and four or five lines breed;
petioles short. Flowers white, peduncled; in short, simple,
termi-
terminating racemes. Pedicel of the fructification about an inch long, making an obtuse angle with the peduncle of the flower. Capsule pulpuy, which determines it to be a cadaba, not a chombe. A native of the East Indies, whence Sou- nart seqts specimens of the flowers and fruit to La Marek.

C. C. Cadawald, Fornik. "Leaves circular, smooth." A middle-sized tree. Leaves alternate, flat, rather thick, sometimes slightly furrowed, and often margarinate, petiole half the length of the leaf. Flowers eric, in terminating racemes, without petals; nectary greenish; the ligulate part ovate, flat, red above and yellow beneath. Stamens inserted on the lower part of the pedicel of the germ. Fruit two inches long, cylindrical, swelling out in knobs, smooth, green: valves red within. Seeds black, in a dry reddish pulp. A native of Arabia.

C. C. varifolius, Fornik. "Leaves egg-shaped, oblong, mealy." A shrub. Branches round; covered, like the leaves, with a mealy down. Leaves alternate, obtuse, entire, flat, half an inch long. Flowers peduncled, in terminating racemes; petals waved; nectary white: flaments inserted a little below the middle of the pedicel of the germ. A native of Arabia.

C. C. glandulifera, Fornik. "Branches, leaves, calyx, and pistil glandular, vil- lous." A shrub. Branches round, as well as all the other parts of the plant covered with glandular hairs. Leaves half an inch long, petioled, alternate, roundish, entire, rough to the touch. Flowers nodding, from four to six, in a terminating raceme; capsule half an inch long, very hairy. A native of Arabia.

CADAHALSO, in Geography, a town of Spain, in New Cadile, surrounded with pleasant gardens and woods ; 6 miles N. of Efconala.

CADALEN, a town of France, in the department of the Tarn, and chief place of a canton in the district of Gal- lae ; 5 leagues S. E. of it. The town contains 1,627, and the canton 4,709 inhabitants; the territory includes 155 kilometres, and 7 communes.

CADAN, or KADAN, a town of Bohemia, in the circle of Szaz, seated on the Eger, and founded in 821 ; 10 miles E. of Szaz. N. lat. 50° 20'. E. long. 13° 34'.

CADAON, a river of Portugal, which forms the harbour of Setuval.

CADARA, in Ancient Geography, a town of Arabia Felix, on the Perian gulf.—Also, a large peninsula of the Red Sea, on the southern coast of Arabia, which formed an extensive bay, crossed by Ptolemy Philadephis in 12 days and nights. Play.

CADARI, or KADARI, a feât of Mahometans, who assert free-will, attribute the actions of men to men alone, not to any secret power determining the will; and deny all absolute decrees, and predetermination. The author of this feât was Mabed ben Kaled Al Gihoni, who suffered martyrdom for it. The word comes from the Arabic, 777, cadara, power. Ben Ann calls the Cadarians, the Magi, or Mani- chees of the Muffulmen. This name is given by some to the Motzaladites, though they disclaim it, and give it to the Jabarians, who likewise reject it as an infamous appellation, because Mahomnet is said to have declared the Kadarians to be the Magians of his followers.

CADAVAL, in Geography, a town of Portugal, in the province of Tras-os-Montes; 13 miles S.S.W. of Mirandella.—Also, a town of Portugal, in the province of Extremadura, including a district of eight parishes, and about 350 inhabitants; 13 miles S.E. of Peniche.

CADAYELLIO River, is about 3 leagues N.N.E., from the sand off the mouth of Lima river, on the coast of Peru in South America.

CADÆVERUM, in Entomology, a species of ACARUS, having the body somewhat bilobate, and the posterior part furnished with four bristles, which are longer than the body. Schrank. Found in the carcases of insects.

CADAMUS CAstra, in Ancient Geography, a place of Africa, in Mauritania Cæsariis, on the coast from Cadia to Rufucurrum. Antonin. ltn.

CADE, or CHIADA, in Geography. See League of God's houff.

CADE, a cage, caff, or barrel; used in the book of rates for a determinate number of some sorts of fish.—Thus a cade of herrings is a vessel containing the quantity of five hundred herrings, and of sprats one thousand.

Anciently the cade of herrings appears to have contained six hundred fish, reckoning six score to the hundred.

CADE bay, in Geography, lies on the south-west side of the island of Antigua, in the West Indies, and a little to the north west from Carlisle bay on the south of the island.

CADE's Infurrection, in English History, a formidable insurrection, which took place in Kent in 1450, and which was so called from the artful and bold adventurer, John Cade, by whom it was headed. Cade having collected a considerable number of the common people, by specious promises of reforming all abuses, whence he obtained the name of John Amend all, marched towards London, and encamped on Blackheath. From hence two addresses were sent to the insurgents to the king and council, artfully professing the greatest attachment to the person and government of the king, andrequelling the redress of grievances, together with the punishment of evil counsellors, who had oppressed the people at home, and occasioned the loss of the king's dominions abroad, and that the king would govern by the advice of the dukes of York, Exeter, Buckingham, and Norfolk, and the well-affected barons of the kingdom. These addresses, which had marked out for destruction certain members of the council, were rejected, and it was resolved to subdue the insurgents by force. For this purpose, an army of 15,000 men was ordered to march against the insurgents; and a detachment overtook and engaged them near Seven-oaks, but was defeated. Cade and his followers, elated by this victory, returned to their former station on Blackheath; and as the aspect of affairs was now become serious and alarming, lenient measures were adopted, and the archbishop of Canterbury and the duke of Buckingham were deputed to treat with the rebels. In the conference that ensued, Cade behaved with decency and firmness, but refused to lay down his arms, till the requisitions in his addresses were granted. After the return of the messengers, the court retired to Kenilworth castle, and the tower of London was garrisoned. Cade advanced to Southwark, and was at length admitted into London. Having seized and beheaded lord Say and Scale, late high treasurer of England, and his son-in-law sir James Cromer, sheriff of Kent, they proceeded to pillage the city; but they were soon driven out of it, and failing in their attempts to repulse them, they agreed to a short truce. A proclamation was issued from the tower, which announced a pardon under the great seal to all who immediately departed to their own homes; and this proclamation produced such an effect, that in a few hours the army, lately formidable, disappeared. Cade, finding that he was thus suddenly abandoned, put his boots on board a barge, and sent it to Rochester, and proceeded by land with a few attendants; but being denied admittance into Queborough castle, he diffimuated all his followers, and put on a disguise. A proclamation was immediately published, offering a reward of 1000 marks to any who brought him in, dead or alive. He was discovered lurking in a garden at Hothfield, in Suffolk,
by Alexander Eden, a gentleman of Kent, and, making some resistance, was killed, and his body was brought to
London. Thus ended an insurrection, which, under a leader of higher rank and greater honour, might have pro-
duced a revolution.

Cade Lamb, in Rural Economy, a young lamb brought
up in the house wholly by the hand. Where the ewe dies soon after bringing the young lamb may be preferred and
brought up in this way.

C. olf, (huile de Cade, Fr.) is an empyreumatic oil of
turpentine, thinner than tar, and obtained along with it in
the distillation of pine wood. It appears to be very similar to what is
called in this country spirit of tar. See TURPENTINE.

Cade's point, in Geography, lies at the north west end of
the island of Nevis, in the West Indies, and is the nearest
cape to Major's bay, at the south-east end of the island
of St. Christopher's, or St. Kitt's.

Cade-worm, in Entomology, a name given by some au-
tors to the larve of the phygmeus, which are found in
ditches, and used as bait for fish. See PHYGMEUS.

CADEL-AUANACU, in Botany, Rhed. mal. 2. p. 61.
t. 75. Rai. hif. 167. 1855. Sup. 112. 666. See Croton
Tiglium.

CADELI, Rhed. mal. See ACYRANTHES-OGFERA.

CADELUM, Ruph. Amb. See PHASEOLUS MAX.

CADEMOSTO, or CADAMUSTI, LEWIS, or properly
ALVISE DA CA DE MOSTO, in Biography, a celebrated
Venetian navigator, was born about the year 1432; and
having made several voyages in the Mediterranean, he left
Venice in 1454, and being accidentally driven by a storm on
the coast of Portugal, he was employed by the infant
don Henry in a voyage of discovery. A caravel was fitted
out and laden, chiefly at the expense of De Mosto, who embar-
ked in March 1455; with Vincenzo Diaz, to whom the
command of the vessel was entrusted, and proceeded to the
coast of Africa. Being joined at sea by two other vessels,
they failed to some distance beyond Cape Verde; but the
crews, through fear of the negroes, refusing to proceed
further, they were under a necessity of returning to Portu-
gal. In the following year, Cademisto, accompanied by
Ufomare, a Genoese, undertook a second voyage with three
vessels towards the same parts; and having passed cape
Blanco, they were driven by a storm on Cape Verde islands,
which had not yet been discovered. From hence, they
proceeded as far as the mouth of the river St. Domingo.
Cademisto, after his return to Portugal, published, in 1494,
an account of his voyage, which is valuable, as it contains
the earliest relation extant of the Portuguese navigations on
the African coast, and of the gold trade of Tombut, and its
principal branches. This work was first published at
Vicenza in 1597; it was afterwards translated into Latin
and French, and inserted by Grinnaeus in his collection enti-
tled "Novus Orbis," and by Ramufr in his collection of
voyages, and since in several others. The author refided
some years at Lagos in general esteem. He returned to
Venice in 1464, and after this period we have no further

CADENA, in Ancient Geography, a town of Asia Mi-
nor, in Bithynia.

CADENAC, in Geography, an ancient town of France,
in the department of the Lot, by which river it is surround-
ed, seated on a steep rock, which, having never submitted
to the English in their various invasions and conquests, was
involved with peculiar privileges; 25 miles E.N.E. of Cahors.

CADENCE, in Music, denotes a kind of close, or reit,
either at the end of a song, or some of its parts, into which
it is divided as into members, or periods.

The word seems a metaphor drawn from the dancing-
school, where it properly signifies a pause, or fall, from
motion to rest. A cadence is properly when the parts fall,
and terminate on a chord, or note, the ear seeming naturally
to expect it. Regularly it is to be made on the final or
dominant, though sometimes also on the mediant or middle
chord of a note.

Cadences in singing answer nearly to points or stops in
discourse. They are rests continued to favour the weak-
ness of the performers, as well as the hearers, of a musical
composition. Men are not able to sustain their attention,
or their voice, beyond the space of two measures; even
in this short interval we perceive the song to fall, and
tend rapidly to a pause, or rest: the notes which introduce
these pauses, are called cadences, on the proper conducing
and expresing of which a great part of the musician's skill
depends. The chief cadence or close is the key itself, in
which the bars must always conclude; the next in dignity
is the fifth above; then, if the key-note is made sharp, a cadence
may be made on the second of the key; after which (by
means of a sharp fifth) on the sixth; and by a sharp second
on the third of a key; after which, returning to the original
key and subject, when the hearer is reminded of both, by
means of a flat seventh, there may be a close in the fourth
of the key; after which, with a sharp seventh, the piece may
terminate by a final cadence or close in the original key.
See CLOSE, MODULATION.

In all these cadences, a major key is understood. For
cadences in a minor key, see COUNTERPOINT.

Dr. Pepusch's definition of cadences in music is, perhaps,
the most short, clear, and comprehensive, to be found in any
elementary book.

"Cadences in music are the same as stops in speaking or
writing; that is to say, they are endings or terminations
either of a part or of the whole piece of music, as stops
are of a part or of the whole speech. For which reason
they are distinguished into full cadences and middle cadences;
these last are like commas and semicolons, after which more
is expected to follow, they not making to full a stop as the
other; whereas after a full cadence we are sensible that
we are come to a conclusion." Treatise on Harmony, p. 4.

This author's arrangement of the modulation in the key
of C as the representative of all major keys, differs somewhat
from the present practice. It is however that of the
greatest masters of the early part of the last century.
C, G, E, A, F, c, which include all the concords to the
key note.

In a long piece of music, however, he allows a transient
modulation into D minor, as a sixth cadence. But Dr.
Pepusch's modulation into E differs totally from that of the
secular composers of modern times. It is, in fact, no
more than a semi-cadence on the fifth of the key of A minor,
with a sharp third; nor is the scale any thing more than
that species of octave aligned by most writers on ancient
music to the Dorian mode. See Mode, and ANCIENT
Music. It begins and ends in E without flat or sharp; F G A B C D E. Dr. Pepusch says, that "from
the peculiarity of its modulation, whatever is composed in this
mode or key is so solemn, and it seems so much appropriated
to church music, that it is called by the Italianas tondo di
ebifra. From the contemplation of this scale, the fieur
Blainville, in 1751, fancied, or wished others to fancy, that
he had discovered a new cadence, or key, different from the
major and minor, the second being minor, and the seventh
major. See DIET. de Roufseau, art. Mode.

The resolution of a discord, according to Roufseau, is a kind
kind of cadence. “And, as all harmonic phrases are necessarily connected by discords, expressed or understood, it follows, that all music may be said to consist of a succession of cadences.” The rule of the octave seems to favour this idea; as every other sound carries a discord. See Rule of the Octave.

According to Rameau, there are four kinds of cadences; the perfect, imperfect, interrupted, and disappointed.

Padre Martini’s cadences, in his Saggio di Contrappunto, being such as are peculiar to the ecclesiastical modes, will be of little use in secular music. The clohes of Haydn, Mozart, and Pacchierio however new, elegant, and ingenious the treble may be, are all built in the bases and harmony of the old clohes of 100 years ago; for in a full close, as the base must fall a fifth or rise a fourth, the treble must either fall from the ninth to the eighth, or rise from the seventh to the eighth.

In early days of counterpoint, the great fluidly of composers was cadences. A Studio di Palestrina being found at Rome in the year 1770, it was chiefly filled with cadences and chants, in his own hand-writing.

In melody, the preparation for clohes in the principal part are infinite; in harmony they are numerous, but may be numbered. Neither Rameau’s cadences, nor those of Padre Martini, quite satisfy us. In Galpinari there is an ample collection, chap. vi. per far le cadenze d’ogni forte. From these Walther has cited many, but more correctly; for Galpinari’s book, in the edition which we have seen, is imperfectly printed. The cadences in Walther are good, as far as harmony is concerned, which is not so changeable as melody; and to these, chiefly from Galpinari, we have all the Italian names: as cadenza maggior, minore, maggiora fiuma, cadenza fiuma, finta, fiorita, perfetta, imperfecta, irregolare, d’inganno, &c.

In ancient music, cadence is nearly synonymous with rhythm. The French make use of the term cadence for a trille or shake.

Cadence, in the Modern Dancing, is when the several steps and motions follow, or correspond to, the notes or measures of the music.

Cadence, in the Oratory, and Poetry, denotes the harmonious movement of verfe or prose, or otherwise called the numbers, and by the ancients rhymes. See Rhythm.

As to prose, Ariosto suggests that though it be not measured like verfe, it should nevertheless be numerous or harmonious (See Number); and Cicero enjoins the orator to take care to gratify the ear, “superlubimum aurium judicium.” Indeed, the finest thoughts will be delightful to a power to please, if they are expressed in terms that are harsh and ill arranged. As the ear is agreeably footed by a soft and flowing discourse, it is offended by want of harmony in the structure and flow of the periods; whether it

be occasioned by the excessive brevity and abruptness of termination, on the one hand, or by excess of length, a kind of crawling, languid, movement on the other, which are both alike disagreeing to a delicate ear. By observing a due mean between these two extremes, a discourse acquires that harmony which is adapted both to please and even to persuade. See Style.

As to the cadence of verfe, it depends, in Greek and Latin poetry, on the number and proper intermixture of those feet or periodic measures which enter into the composition of verfe, and which vary in the different kinds of it; and, in living languages, the cadence results from the number of syllables which each verfe admits, and from the riches, variety, and disposition of the rhymes. In the ancient poetry, says M. Rollin (Method of Teaching and Studying the Belles Lettres, vol. I. p. 249.) “There is a plain, common, and ordinary harmony of cadence, which supports itself alike universally, renders the verfe smooth and flowing, carefully throws out whatever may offend the ear by a rough and disagreeable sound; and, by the mixture of different numbers and measures, forms that pleasing harmony, diffused throughout the whole body of the poem.” “Besides this,” he says, “there are certain particular cadences, of greater significance, which make a more sensible impression. These sorts of cadences are very beautiful in verification, and add a considerable grace, provided they are used with prudence and address, and do not return too often. They prevent the tediousness, which uniform cadences, and regular returns, in one and the same measure, cannot fail of producing.” “In the Latin poetry,” he adds, “we have entire liberty to divide our verses as we please, to vary the paces (caesuras, or cadences), at will, and artfully to spare delicate ears the uniform returns of the daftyle and fpondees, which close an heroic verfe.” Accordingly he produces a variety of examples from Virgil, which seem to evince and illustrate the value of this kind of liberty, and the use that may be made of it. Thus, long words, properly placed, form a full and harmonious cadence, especially if there are several ppondees in the verfe, e.g.


Again, the spondeic verfe has sometimes a great degree of gravity. Virgil has used it very advantageously in the description of Simon’s surprize and astonishment.

“Namque ut conspectus in medio turbatus, inermis Confultit, atque ocellis Phrygia agrina circumspexit.” An. II. 67.

It is also very proper for expressing any sentiment that is sad and doleful; e.g.

“Quae quondam in buitis aut culminibus deferitis Nocete sedens, ferum canit importuna per umbras.”

An. XII. 863.

A monofyllabic at the end of a verfe serves sometimes to give it great force; e.g.

“Haec pede pes, defusque viro vir.” An. X. 361.

There are also several forts of suspended cadences, which have their peculiar graces; e.g.

“Et frutra retinacula tendens Furtur equi annigra, neque audit currus habens.”

Georg. I. 513.

Broken cadences likewise produce a good effect; e.g.


Eliothus contribute very much to the beauty of verfe, by making the numbers smooth, flowing, rough or majestic, according to the difference of the objects to be expressed. Spondees and long words, which give a flownefs and heavnefs to verfe, are proper for expressing sorrow; e.g.

“Extinctum
"Exstinctum nymphæ crudidi funere Daphnium

Joy, on the other hand, demands the rapidity of
dactyles: e.g.

"Sedantes fatusvos imitabitur Alphæus eruens." Elog. V. 73.

To express softness, we must select words consisting of
many vowels, with smooth and flowing consonants; and
avoid such syllables as are composed of several consonants,
harsh clitics, and rough letters or aspirates; e.g.

"Deveniere locus levis, et amæna victa
Fortunatorum nemorum, fedequc beatas."

Ex. VI. 638.

In expressing roughness, we must chuse words which be-
gin and end with an r, or which double the r; rough con-
sonants, as the x, or the aspirate h; words formed of
double consonants; and clitics: e.g.

"Ergo axé gratir rahris rimanunt." Georg. III. 534.

Lightness and liveliness are expressed by dactyles: e.g.

"Mox aére lapta quieto
Radi iter liquidum, celeres nescie commovet alta."  

Ex. V. 216.

Heaviness, on the other hand, requires spondæces: e.g.

"Ili inter sefe magna vi brachia tollunt
In numerum, verfantique tenaci forcipe ferrum."  

Georg. IV. 174.

In other cadences, words placed at the end have a pecu-
liar force or grace: e.g.

"Vox quoque per lucos vulgo exaudita filientes
Ingens." George. I. 476.

See Order, Junction, and Number.

Cadence, in Reading, denotes the falling or lowering of
the voice below the key note at the close of every period. They key-note, in speaking, is that tone or found with
which the modulation commences, and it is generally
continued through every complete sentence or period;
and to this the occasional inflexions of the voice,
either above or below it, may be supposed to refer. Of
course the tones that fall a little lower than the key at
the close of a sentence or period, are called cadences; and they
are sometimes distinguished into two kinds, under the
appropriate epithets of significent and ornamental; the former
serve to mark the sense and the latter to decorate the
modulation. In many extensive and long periods, the full
sense of which is long supfended, and where the final words
are not very important, the cadence is a kind of notice of
their termination, distinct from the pause, which, besides
the ornamental variety it affords, is a very necessary and
useful article in periphrastic elocution. As this cadence
naturally accompanies the termination of every sense, it
may sometimes fall before the fermat, but more generally
before the colon, as well as the period; for these marks
are often found to terminate a complete sense; and in such cases
the relation of that which follows to that which preceded,
is signified to the mind by the relative shortness of the top,
and the mode of introducing the additional matter. See
Modulation, Pause, and Punctuation.

CADENCED. An air or melody in music is said to be
well cadenced, when the rhythm is good, the accents well
placed, and the passages well phrased. See Rhythm, Ac-
cent, and Phrase.

CADENCY, in Heraldry, the flate or quality of a cadet.
Nisbet has an essay on the additional figures and marks of
cadency. See Diminution.

CADENE, in Commerce, one of the sorts of carpets
which the Europeans import from the Levant, by way of
Smyrna. They are the worst sort, and are commonly fold
by the piece from one to two shillers per carpet.

CADENET, in Geography, a town of France in the
department of Vaucluse, and chief place of a canton in the
district of Apt, near the Durance, three leagues S. of Apt.
The town contains 2951, and the canton 881 inhabitants; the
territory comprehends 260 kilometres and 9 communes.
N. lat. 43° 40'. E. long. 5° 30'.

CADENSO, or Cadenio, one of the Laccadive islands
in the Indian sea. N. lat. 11° 50'. E. long. 72° 3'.

CADENZA Spongita, in the Italian Music, is used when a part
instead of ascending or descending the proper interval, to
form a cadence, proceeds by some other interval. For in-
stance, when the bass, instead of rising a fourth or falling a
fifth, ascends only by a tone, or semitone-major.

Ex. 1.

Ex. 2.

Thus, in Ex. 1, where the bass, instead of proceeding to
C, the key-note, after G, goes to A. Thus also, in Ex. 2,
after E, the ear would naturally expect to hear A, the key-
note; but this is avoided, and F put in its place.

The interrupted and disappointed cadences in recitative
are innumerable: being governed by the dialogue; in which
a full and formal close from the chord of the fifth to the key-
ote note seldom occurs, except in the last bar of the recitation
preceding an air.

CADEQUIA, in Geography, a sea-port town of Spain
in Catalonia, 5 miles N. E. of Rosas.

CADER, a town of Asia, in the Arabian Irak, on the
Tigris: 100 miles S. of Bagdad.

CADER- IDRIS, the Chair of Idris, a lofty moun-
tain near Dolgellau in Merionethshire, North Wales, in height
the second of the principalities, is so called from a tradition
of its having been a fortress belonging to Idris, who is suppos-
ed to have been a prince of these parts in ancient times.
It is also said that Idris was a famous poet, astronomer,
and philosopher, and that the summit of Cader-Idris was his fa-
vourite seat and observatory. Mr. Rowland in his "Mona
Antiqua," (p. 84) says, that the ancients deciphered astra-
nomy by the name of Edris; a name attributed to Enoch,
whom they took to be the founder of astronomy: whence
he derives Cader-Idris; and he adds that not far off there is
another place, called "Cerrig-Brudyn," i.e. the astron-
omer's flones or circle. Accordingly the former of these
places may have been the residence, and the latter the obser-
atory of those druids in the Isle of Anglesey, who applied
particularly to the study of astronomy.

This mountain rises on the sea-shore, close upon the north-
ern side of the estuary of the small river Difwyn, about
a mile from Towy. It proceeds with almost a continual
ascent, first northwards for about 3 miles, then for 10
miles further it runs E.N.E. giving out for its summit a
branch nearly 3 miles long, in a south-westerly direction,
parallel to the main ridge. It is very steep and craggy on
every side, but the southern defcent, especially to the border
of Talyllyn lake, is the most precipitous, being nearly per-
pendicular. The breadth bears a small proportion to its
length: a line paffing along its base and intersecting the summit,
would scarcely equal 13 miles; and in the other parts it is a
mere ridge, whose base hardly ever exceeds 1 mile in breadth.
Its peak, called "Pen-y-Gader," is said by Pennant (Snow-
donia, p. 98.) to be 2850 feet above Dolgellau. Cader
Idris is the commencement of a chain of primitive moun-
tains, extending in the N. N. Easterly direction, and includ-
ing the Arrans and the Arenigs. It is much more lofty and
craggy than the flates and secundary mountains, which sur-
round
C A D

round it, and consists of siliceous porphyry, and siliceous felscholzo porphyry, both in maüs and interfeated by veins of quartz, argillaceous porphyry in mafs, and granit of Kirwan in mafs, composed of quartz and schorl. Here are found also several rocks, containing the component parts of quartz and porphyry, with fo great a proportion of white and fmoak-coloured gritty-looking quartz as alfo to conceal the other ingredients. In feveral fpecimens the felfpar, having been decompofed, has fallen out and given the quartz a porous appearance, which accounts for the porous lava laid by fome travellers to have been found here. There are no mines in Cadair-Idris, or the neighbourhood. At the foot of this mountain is a small lake, called "Llyn-y-Gader;" above the exterior ridge is another deep and clear lake, kept constantly full by the numerous tributary torrents that fall down the surrounding rocks; and at a fill higher elevation, is a fead crater, clear as glafs, and overlooked by steep cliffs fo as to recombine the crater of a volcano, accurately repre- fented in Wilfon's excellent view of Cadair-Idris. Some travellers have mentioned their having found lava and other volcanic productions here; but Mr. Aikin and his companions, who acceded this mountain, could discover nothing of this kind; nor did the water of the lake appear to differ in any refpect from the prefent rock-water, though it was repeatedly tried with the most delicate chemical tefts. A clear, loud, and diftinct echo repeats every fhot that is made near this lake. On the fummit of the mountain is a fmall plain, with two rocky heads of nearly equal height, one looking to the north, the other to the south. In the former direction Snowdon and its dependencies fhut up the fcene; on the west was feen the whole curve of the bay of Cardigan, bounded at a vaif distance by the Caermarvon mountains, and nearer, difting its white breakers against the rocky cofit of Merioneth. The fonthern horizon was bounded by Phillimmon, and on the call the eye glanced over the lake of Bala, the two Arnnig mounds, the two Arrans, the long chain of the Beryvn mounds, to the Breidyn hills on the confines of Shropshire; and dimly in the distant horizon, was beheld the Wrecin, rising alone from the plain of Salop. On the opposite fide of the mountain, by which these travellers defended, they found another beautiful mountain lake, whole cold clear waters discharge their superabundance to a full flream down the fide of the mountain. All these waters abound with trout, and in foam is found the Gwyniad, a fih peculiar to rocky alpine lakes. Following the course of the flream, they came on the edge of the craggy cliffs that overlook Talyllyn lake; and after a long and defcient defcent they arrived on the borders of Talyllyn, where they entered the Dolhghellau road. The plants which they found were lobelia dortmanni, in all the lakes, efpecially in Llyn-y-gader; fax; ifraga hypnoides; S. nivea; lycopodium telago; L. clava; fellaeca vivipara; vaccinium vitis-idea; gnaehalium di- oicum; pteris cripta; nasthectium offragum; phiginctula vulgaris; fedum rupestris; S. telephium, &c.

Beneath Tyrnaw Mawr, one of the points of Cadair-Idris, and on the right are some remains of circles of upright stones, with many cairns, and several mount-birion, of rude, upright columns. At a fmall distance beyond thefe, near the river Kroggenan, are the remains of "Llys Bradwyn," or the palace of Ednasawain, chief of one of the fifteen tribes of North Wales, about the reign of Gruffyd ap Cynan, measuring nearly 30 yards square: having an entrance 7 feet wide, with a large upright fone on each fide as a door-cafe: the walls are rude and uncemented. Aikin's Tour. Svo. 1797.

Evans's Cambrian Itinerary. Svo. 1801.

CADEOUSA, a town of France, in the country of Venafrin: 1 league W. of Orange.

Cades, in Ancient Geography. See Kadess.

CADESIA, a town of Persia, in the province of the Babylonian or Chaldæan Irak; on the verge of the Defert, 64 leagues from Bagdad, and 2 ftations, or 15 parafangs, from Cufa. It became famous among the Arabs for the defeat of the Persians, in the battle fought in the 15th year of the Negara, (A.D. 636.) under the caliphate of Omar, by Sadi, fon of Abuzrez, general of the Arabs, against Rul- tan, farmed Erokhraz, general of Jezzered, the last king of Persia, of the dynasty of Chofroes, or of the Safafiri. The army of the Moslems consisted of 50,000 men; but that of the Persians was much more numerous. The combat lasted three days, and the fervear periods of it were diffingnaed by their peculiar appellations: the first, from the fitonable appearance of Gogo of the Syriam brethren, was denominated the day of fairceur. The day of couple- foned expiated the disorder of one, or, perhaps, of both, of the contending armies. The third, a nocturnal tumult, received the whimfical name of the night of herking, from the discordant clamours which were compared to the inarticulate sounds of the firceai animals. The morning of the succeeding day determined the fate of Persia; and a feafonable whirl- wind drove a cloud of dust against the faces of the unbelievers. The clangor of arms was re-echoed to the tert of Rulfan, who was gently reeling in a cool and tranquill haze, amid the baggage of his camp, and the train of mules, that were laden with gold and silver. On the found of danger he started from his couch; but he was overtaken in his flight by a valiant Arab, who caught him by the foot, firnec off his head, hoisted it on a lance, and笺antly returning to the field of battle, carred Ruffan and defmay among the thickest ranks of the Persians. This battle has been juftly defcribed by the epithets of obfinate and atrocious; and the Saracen acknowledge a los of 7500 men. The oandard of the Persian monarchy was overthrown and captured in the field; which oandard was a leathern apron of a blacksmith, who, in ancient times, had arfen the deliverer of Persia; but this badge of heroic poverty was defignified, and almoft concealed by a profusion of precious gems. After this victory, the wealthy province of Irak, or Affyria, submitted to the caliph; and his conquets were firmly eftablibhed by the speedy foundation of Bagdor, a place which ever commands the trade and navigation of the Persians. D'Herbelot. Bib. Orient. Gibbon's Hist. vol. vi. p. 367, &c.

CADET, the younger brother of a family: a term naturlized in our language from the French.

In Paris, among the citizens, the cadets have an equal portion with the eilded; in other places the eilded has all. According to the custom of Spain, one of the cadets, in great families, takes the mother's name.

Cadet afo denotes a young gentleman-soldier, who, to attain to some knowledge in the art of war, and in expectation of preferment, chooses to carry arms as a private man, in a company of foot.

Cadet differs from volunteer, as the former takes pay, though only that of a private man, whereas the latter serves without pay.

In 1682, the king of France eftablished companies of ca- dets, wherein the young genteiy were trained up to war, and taught the arts and exercifes belonging thereto, as riding, fencing, mathematics, &c.

Cadet, Claude, in Biography, one of the physicians to Lewis IV. was born at a village near Troyes, in 1695. Applying diligently to the study of medicine and surgery, at the age of 21, he was sent to Paris, and admitted among the attending surgeons at the Hotel Dieu, where he profited so well by the opportunities which offered for information, that in 1724, he was admitted of St. Come, and attained

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retained
tained to considerable eminence in his profession. He died at Paris, Feb. 10, 1745. His only work is, "Observations for the Maladies of the French," Paris, 1744, 12mo., which was republished, two years after, with additions. His two sons, Lewis Claude, and Anthony Alexis, who were both brought up to the practice of medicine, distinguished themselves by their publications on the subjects of chemistry and pharmacy, of which the following are most known: "Analyse Chimique d'une Eau Minérale nouvellement découvrite a Paris," 1775, 12mo.; "Reponse a plusieurs Observations de M. Baumé par l'Ether Volatile, sur le Mercure precipité par le, sur le Redution de Chaux, de Caust., et d'Etain a travers les Charbons," Paris, 1775, iv., besides numerous communications to the Academy of Sciences, at Paris, and Curifol. Nat.; of both which Lewis Claude was member. Eloy, Dic. Hist.


CADEUM, a town of Ethiopia, near Egypt, Pliny. Cadge, a round frame of wood on which fowlers carry their hawks when they expose them to sale.

CAGDOLLS, in "Geography," a mountain of Scotland, in the county of Ross; 6 miles S.E. of Tain.

CADIS, among the Turks and Saracens, denotes an ordinary judge, who decides in all civil controversies within the district of a town or city, though subject to appeals to inferior judges.

The word is Arabic, كَدِيْس, q. d., judge, formed of كَدَيْس, to judge. D'Herbelot writes it cadit.

The term cadis, used absolutely, denotes the judge of a smaller town or village who judges, without appeal, all litigious affairs, not only of the Mussulmans, but even those of the Jews and Christians; those of cities being called mollas, or moulas, sometimes moudcadis, or great cadis. The place of a cadis, or of a mollas, is frequently occupied by a lieutenant, called nahi, who judges, like them, without appeal; he is a moudis, who runs the career of magistracy, and is generally appointed cadis the following year, and sent to another poit. The cadis remains in this rank, and obtain no other advancement besides that of a tribunal, more extensive, and, consequently, more lucrative. They, nevertheless, become mollas of an inferior rank; such are those of Bagdad, Philadelphia, &c.; but they cannot become cadisdelches, mutfis, &c. unless they enter the grand college of Soliman I. and continue their studies. The tribunal of justice is designated malkana, or mélême.

We find numerous complaints of the avarice, extortion, and iniquity of the Turkish cadis; all justice is here venal; the people bribe the cadis; the cadis bribe the mollas; the mollas the cadiusdelches; and the cadiusdelches the mutlis.

It is usually vain to appeal, even if an appeal were allowed, from the sentence of the cadis; since the affair is never heard, and, but judgment is passed on the case, as flattered by the cadis. The tribunal, whence these cadis judge their decisions, is sometimes at their own houses; but never at any place which corresponds with the idea annexed to so solemn an employment. In an empty mean apartment, the cadis sit on a mat or wretched carpet; and on each side of him are his clerks and some domestics. The door is open to every body; the parties appear; and there, without interpreters, advocates, or attorneys, each pleads his own cause. Squatted on the ground, they state the facts, dispute, and reply again in their turns, sometimes the debates are violent; but the cries of the clerks, and the flail of the cadis, soon restore order and silence. Gravely smoking his pipe, and twirling the end of his beard round his finger, this judge licence, interrogates, and concludes by pronouncing a sentence without appeal, which at most allows but two months delay. The parties are never very well satisfied; they retire, however, with respect, and pay a fee, estimated at one tenth of the litigated property, without murmuring at the decision, as it is invariably directed by the "infallible Koran." Venality, indeed, is so barefaced, and so impudent, that the parties may bargain for their causes with the cadis, as they would for any common commodity. Corruption is habitual and general; nor is it likely to be otherwise in circumstances, where integrity may be ruinous, and injustice lucrative, where each cadis, deciding without appeal, fears neither a revision of his sentence, nor punishment for his partiality; and where, in short, the want of clear and precise laws affords a thousand ways of avoiding the blame of an evident injustice, by opening the crooked paths of commentaries and interpretations. The cadis, nevertheless, are often calumniated, and punished for notorious injustice with the bastinado and mulets; but the law forbids them to be put to death. Conflantinople has had cadis ever since the year 1350, when Bajazet I. obliged John Palalogenus, emperor of the Greeks, to receive cadis into the city, to judge all controversies happening between the Greeks and the Turks settled there. In some countries of Africa, the cadis are also judges of religious matters. Among the Moors, cadis is the denomination of their higher order of priests, or doctors, answering to the rabbins among the Jews.

CADI, in "Ancient Geography," a town of Mylia; according to Steph. Byz.; but Strabo places it in Phrygia.


Gen. Ch. Cal. bell-shaped, five-cleft. Cor. petals five, rarely fix or feve, inverely heart-shaped, equal. Stam. filaments ten, rarely more, oval-shaped, a little curved, gibbous at their base, the length of the corolla, ranged in a circle near the petals; anthers oblong, incumbent. Pist. germ pedicelled; style simple. Peric. lemma linear, compressed, bent at the end, membranous, many-seeded. Seeds oblong, shining.

Ell. Ch. Calyx five-cleft; petals equal, inverely heart-shaped; lemma many-seeded.


CADING, a kind of lentiles in Batavia; and the adjacent country, which makes a considerable part of the food of the common people. Dr. Haworth's Account of the Voyage to the South Seas, vol. iii. p. 733.

CADIA PATAM POINT, in Geography, lies on the coast of Malabar, in the East Indies, near the extremity of the peninsula of India, to the west of Cape Comorin. Pooiytopu village is situated on the sea-coast, E. N. E. 4 geographical miles from this point. N. lat. 8° 9' 15". E. long. 77° 26' 35'.
capital officer of justice among the Turks, answering to a chief-justice among us.

The word comes from the Arabic kadi, judge, the particle ah, and ofchar, army; as being at their first institution chiefly judges of the fouldery; of whose causes they have still the sole cognizance. D’Herbelot writes the name cadilllexer, or cadilfker.

It is said that this authority was originally confined to the fouldery; but that at present it extends itself to the determination of all kinds of law suits; yet, nevertheless, subject to appeals.

At Constantinople there are two cadilefchers, who superintend the concerns of the Ottoman empire; one of Romainia, or of Turkey in Europe, and the other of Natalos, or of Turkey in Asia. They were formerly the judges of military men, the former for European Turkey, and the latter for the Asiatic countries, when the Sultan commanded them in person. The cadilefcher of Romainia was then charged to decide on the affairs of the Musalmans, and the other on those of the tributary subjects. For some time past, the former has the pre eminence over the latter, and determines alone all the causes carried to his tribunal, by the sole will and at the request of the plaintiffs. The tribunal of the cadilefcher of Natalos has been a long time superseded as useless. They both aspire at the divan of the grand vizir, bear and defend the causes brought before them; after which the cadilefcher of Romainia alone pronounces the sentence.

The mufti presides annually a lift to the fultan for the nomination of two cadilefchers, of the Stambol effendi, of the mollas of Mecca and of Medina, of those of Bura, Adrianople, Cairo, and Damaticus, as well as of those of Jerusalem, Aleppo, Smyrna, Larifla, Salonica, Scutari, Galata, and Ajiup, which is one of the suburbs of Constantinople. It is commonly according to the rank of seniority that the choice is made, when favour does not advance some protected person, or the son of some great man. When chosen, the cadilefchers remain in place only a year; but the cadilefcher of Natalos generally succeeds that of Romainia, and the former has before passed through the same rank. To them it belongs to appoint all the simple cadis of the empire; and this circumstance renders their place, in a country where every thing is vend, very lucrative, independently of the appanages which they possess. The cadilefcher of Romainia appoints the cadis of Turkey in Europe, and that of Natalos appoints those of Asia and Egypt. Subordinate to them is the Stambol-effendi, molla, or judge of the capital. See Stambol-effendi. The cadilefchers are sometinnes advanced to the rank of mufti (which see); but according to the established order, he must be chosen from among the cadilefchers of Romainia, and those who have occupied that employment. Those who aspire to the office of cadilefcher must pass through a previous course of education. For this purpose there are attached to the imperial mosques of Constantinople, Bura, and Adrianople, mafters, or colleges, to which young persons are sent, from all parts of the empire, to be instructed in the law of the prophet. In religious, civil, and criminal jurisprudence, and to learn all the opinions and all the subtileties of the commentators on the Koran. They then undergo various examinations, and when they are thought to be well informed, the rank of mufters or professor is affigned to them. These colleges were founded by different sultans. The first was established at Nicea, in the year 1375, by Orkhan. They enjoy a considerable revenue, and provide for the support of 2 or 3 thousand felbaras.

The mufters, who are not willing to follow the career of professor and obtain the eminence rank of molla, solicit of the cadilefchers the place of cadis, which is easily granted them for a pecuniary consideration. The mufters, who are ambitious of obtaining the most important places, such as those of molla, cadilefcher, and multi. pas, after fresh examinations, to the mofque of Solomon I. and wait till their turn, their merit, or their interest procures them an appointment.

Eight of them, under the appellation of makkerche, are appointed every year mollas, or judges, of the towns of Jerusalem, Aleppo, Smyrna, Larifla, Salonica, Scutari, Galata, and Ajiup. Four, among the latter, are afterwards named to the cities of Bura, Adrianople, Cairo, and Damaticus, and the following year two of these become mollas of Mecca and of Medina; from among these last is taken the Stambol-effendi. Thus, successively in their turn, they arrive at the place of cadilefcher, and even of multi. But the mufters, before they can attain to this distinction, must either be protected, or manifest ardent zeal for religion, distinguished talents, great application to study, and very auffere manners. The mollas, cadilefchers, and others who are not employed, and who are waiting for offices, have appanages or benefits, called “Arpalkis.” Several obtain inferior tribunals, where they place names, who discharge their functions, and to whom they grant only a part of the income.

Tournefort (Voyage Lev. tom. ii. lett. 14.) erroneously afferts, that, at Confantinople, a perfon could appeal from the sentence of a cadis; whereas Europeans only enjoy that privilege, when the sum in litigation exceeds 4000 francs, or nearly the value of 66 lives, supposing the pilafre at two lives. In all the towns of Turkey, the molla, the cadis, and the moh, judge without appeal; they condemn to fines, to corporal punishment, or to death, without allowing to the delinquent, or perfon accused, the power of having recourse to another tribunal. Pococyte, Egypt, p. 170. Volney’s Travels in Egypt and Syria, vol. ii. p. 389, &c. Olivier’s Travels in the Ottoman Empire, &c. p. 174, &c.

CADILLAC, or CADILHAC, in Geography, a town of France, in the department of the Gironde, and chief place of a canton in the district of Bordeaux, seated on the banks of the Garonne, and containing a fine castle, with a collegiate church; f ½ leagues S. S. E. of Bordeaux. The place contains 1526, and the canton 12,205, inhabitants; and the terriory includes 97 ½ kilometres and 16 communes. N. lat. 44° 37’. W. long. 0° 15’.

CADITIS, an appellation given by Plaut to a kind of figured stone, resembling a cadis or barrel.

The cadites sells in the middle, and goes tapering to both ends, being divided lengthwise, with such equidistant linements, as are usually made by the flaves of a barrel, but without hoops, nor yet hollow.

CADIZ, in Geography, called Gades by the Romans, by the Phænicians Gadir or Gadair, i.e. a hedge or fenced place, and by some of the ancients Tarfus; a sea-port city of Spain, seated on a promontory in the extremity of a peninsula, and joined to the isle of Leon by a causeway. Towards the east it is washed by the gentle waves of a well-protected road; but towards the west it is open and exposed to the fury of the ocean. Both the harbour and bay of Cadiz are secure and spacious; the entrance being defended by fort Matargordo, and by fort Puntal flanding opposite to it on a point of that neck of land on which Cadiz is built. The entrance into the harbour is between these forts and the points on which they stand, is reckoned to be about 500 fathoms wide. During the time of ebb, a considerable part of the harbour is dry. The outer and furthermost bay, which begins between La Rota and San Sebastian, both of which are fortified, and extends to Puerto de Santa Maria, is divided into two parts by the rocks of Los Pueros and Diamante. On the south side Cadiz is inaccessible on ac-
count of the high and steep shore; on the north side also the access is dangerous, by reason of many sand-banks and rocks which lie under the water; and though the south-west side admits of landing, it is defended by fort Santa Catalina, or St. Catherine. On the S.S.W. point is a ridge of rocks, part of which, at full sea, is covered with water; the outermost of these is a small island, on which are a guard and light-house, with two chapels, and also fort San Sebastian. The city, therefore, is susceptible of attack only at the narrowest part of the neck of land lying between it and the S. E. part of the island of Leon; and on this side it is also fortified.

The belt view of Cadiz and its environs is that which may be had from the signal tower; and hence you look immediately down upon the houses, whole flat roofs, covered with a white cement, exhibit a singular but very pleasing appearance. Towards the west, you command the ocean, with numerous vessels, leaving or entering the harbour; and on the land side, you discover the four interesting sea-port towns of Rota, Santa Maria, Puerto Real, and Caraca, with the Isle of Leon, and the connecting causeway; whilst a rich country, verging towards the setting sun, bounds the distant prospect. The streets of Cadiz are narrow, and yet well-paved and clean. The most beautiful part of the city looks towards the Puerto de Santa Maria, where the houses are lofty, built of white freestone, brought from thence across the bay, and ornamented with painted balconies. In front they afford a wide parade, well gravelled, planted with trees, and communicating with the sea-road, where the merchantmen and ships of war find shelter. Two considerable squares, one for the market, the other called Plaza de San Antonio, with the Calle-cancha, or Broad-street, joining to it by way of mall, contribute both to ornament and health; and as the whole city is nearly encompassed by a rampart, this forms an elevated, airy, and delightful promenade, much frequented in the evenings. A small part towards the west is bordered by five rows of elms, forming four avenues, adorned with elegant seats, and constituting the Alameda. Along the ramparts is also a row of houses; and the shaded parts towards the south serve for the lower classes to take their siesta, and enjoy the luxury of the sea-breeze. The inhabitants of Cadiz supply the want of other promenades by parties of pleasure in the environs of the city. With this view they go out in carriages either to Puerto de Santa Maria, where are fine avenues and gardens, or to Chielana, near the Isle of Leon, which is almost entirely covered with country houses, and commands a very fine view of the bay, the town, and the sea. Although the extent of Cadiz is very limited, yet its houses are crowded together, and are very lofty, so that the population is estimated at between 75,000 and 80,000. (Fischer's Travels in Spain.) Townsend (Journey through Spain, in 1785 and 1787), reckons them at no more than 65,000; but he says, that about 10 years since, they were computed at 85,000, besides about 20,000 people who entered daily from the sea and from the adjacent country. The most distinguished buildings are the two cathedrals, the ancient and the new; the former is chiefly remarkable for some good pictures, and for its treasures, consisting of gems, silver candlesticks, and lamps, numerous and bulky; three ciboriums, one of which, constructed of the finest silver, weighs 51 arrobas, or more than half a ton; and another consists mostly of solid gold. The new cathedral is a huge pile, with large and lofty domes, and many well-proportioned pillars; but upon the whole heavy and disgusting. Near the cathedral is the Placa de Toros, appropriated to the bull-fights, built entirely of wood. At a small distance are the observatory, all provided with instruments, and the academy for painting, sculpture, and architecture. In the convents are some few good pictures. Of the three hospitals, one, called the Royal or Military Hospital, is designed for soldiers, and accommodates 80 students, who are maintained and educated at the king's expense. It has a good botanical garden, and a theatre for performances, furnished with subjects from among the patients. The other two, one for men, and the other for women, are distinguished for their neatness. Besides these hospitals for the sick, Cadiz has a retreat for 47 widows, founded by a Turkish merchant, who died in 1756. But the most interesting establishment in this city, and the most conducted of its kind in Spain, is the hospicio, or general workhouse. It accommodates (at an average of the year 1787) 855 paupers of every nation, age, and sex; who are either paid labour, or instructed and employed in useful arts; and encouraged in proportion to the amount of their labour.

The heat of the climate at Cadiz is moderated by the sea-breeze; so that even in summer it enjoys a happy temperature, and few places are more healthy; but it becomes more intense whenever the solano or south-east wind prevails. This paffes to them over the scorching plains of Africa; and fuch is its effect, that all the pallerios are inflamed, and during its prevalence, the inhabitants, who are most irritable, commit every species of excess.

This city abounds with almost all the necessaries and luxuries of life. Its fruits are cheap, and its most remarkable wines are sherry and pacaretti, both of which are procured from Xeres and its vicinity. But they are much diluted for want of fresh water, which they are obliged to fetch from Puerto de Santa Maria; and their ice, which is used for cooling it, is brought from Sierra, at the distance of 13 leagues. For domestic purposes, such as washing, &c. they collect their water in subterraneous cisterns, but being subject to little by evaporation, it is procured with difficulty, and consumed with great economy. For preventing a scarcity of corn, and in order to ensure a profit by the sale of it, the city has established a public granary, from which the bakers are supplied at a given price; and, according to that, the magistrates regulate the affluence of bread. The theatre at Cadiz is large, elegant, and commodious; the principal actors are Italians; and the inhabitants are chiefly attracted to it by the comedies called Saynetes, and the whimsical dances denominated Voleros. In Lent, whilst the most polished orators confine themselves to churches, other preachers harangue the multitude in the market-place, with a vehemence of voice and gesture suited to their congregations. Among the Franciscans, when the penitential sermon is finished, the lights are extinguished, and instantly scourges are applied. When the market-place is not occupied by orators, the orators take possession of it with their benches, at which they sit with pen, ink, and paper, to write and read letters of all sorts, and to execute every kind of deed. In the year 1720, the commerce, which for two centuries had proved a source of wealth to Seville, was transferred to Cadiz; and from that period its merchants have carried on a very considerable trade, which, however, has ebbed and flowed, according to medieval circumstances. Indeed, this port has been the emporium of commerce to the West Indies and America. Townsend informs us, that its whole trade employs about one thousand vessels, of which nearly one-tenth is Spanish. In 1784 the value of exports to America amounted, in Spanish and foreign produce, to 3,621,443 pounds sterling; and the value of imports in money and jewels was 8,297,195 claviles, and in merchandise 3,090,771. The articles of commerce are cochineal, indigo, cacao, sugar, hides, Vicuna wool, cotton, copper, tin, tobacco, different kinds of wood, &c. which are distributed...
distribute into different countries. Among the foreign merchants of all nations are many Germans, from Hamburg, Bohemia, and Augsburg. The former constitute the class called Hanseatics, and according to ancient convention enjoy considerable privileges. To foreigners indeed Cadiz is much indebted for various means of literary intercourse and improvement, as well as for the wealth resulting from an extended commerce. The manufacturers of Cadiz are principally restricted to ribbons and linens; and several parts are employed in knotting silk, and marking rockings received from Nilanes, and intended to be shipped for the American settlements. The most interesting branch of industry in the environs of Cadiz is the manufacture of salt; produced by the numerous salt-pools of the isle of Leon, with little labour or expense, because the sun and air quickly cauæ the water to evaporate, and leave the salt crystallized. Cadiz is the birth of a bithnian, Safavide of Seville.

The old Cadiz was built by the Tyrani; from thence it was transferred to the Carthaginians; and afterwards it fell under the dominion of the Romans. It was recovered from the Moors in 1266. In 1536 Cadiz was taken and plundered by the English; and an unsuccessful attempt was again made for sieging it in 1701. During the late and present war it has been held by the English, at different periods, in a state of blockade. In some of the old Spanish chronicles, this city is denominated Callis, and hence English seamen usually call it Cadiz. The tide runs here N.E. and S.W.; and it is high water at spring tides at half past four o'clock. N. lat. 36° 31' 7". W. long. 6° 1' 50".

Cadiz, a town on the north coast of the island of Cuba, in a bay of the same name, about 156 miles E. of Havana, and 50 N. of Spiritu Santo. N. lat. 23° 2'. W. long. 79° 55'. A river of this name runs into the sea, 10 miles E. from the town of Cadiz.

CADIZADELITES, a folk among the Mussulmen, resembling the ancient Scyths, who avoid all feasting and drunkenness, and affect an uncommon gravity in all they do or say. Those of them who inhabit the frontiers of Hungary, &c. agree in many things with the Chirifians, and drink wine even in the fall of the Ramyan.

They read the Balrovic translation of the Bible, as well as the Alcoran. Mahomet, according to them, is the Holy Ghost, which descended on the apostles at the fall of Pentecost.

CADLOCKS, in Botany. See SINAPSIS.

CADMA, in Entomology, a species of Papilio found in America. The wings are indented, falvous; disk of the posterior pair beneath white, with two ocellated spots, the pupil of which is double and blue. Drury, &c.

CADMA, in Rural Economy, a term applied to the smallest of the pigs which a sow has at one farrowing, and which is commonly much less than any of the others in the same litter.

CADMEAN Letters, the ancient Greek or Ionic characters, such as they were first brought by Cadmus from Phoenicia: whence Herodotus also calls them Phenician letters. See CADMUS.

According to some writers, Cadmus was not the inventor nor even the importer of Greek letters, but only the modeler and reformer thereof; and it was hence they acquired the appellation Phenoean, or Phenician letters; whereas before that time they had been called Pelasgian letters. See LETTERS AND WRITING.

CADMIA, in Chemistry. This term is entirely obsolete; as, however, it is of frequent occurrence in the writings of the older chemists, it may be proper to explain its meaning. Cadmia, according to Pliny, (Hist. Nat. lib. xxxiv. ch. xxii.) was the common name given to that earthy substance which was employed by the Cyprian artificers in the manufacture of brass; hence it is plain that it contained zinc, and was probably no other than the calamine of the moderns. The same word is also applied by the above-mentioned author to the metallic foot or ashes which collected in the chimneys of the brass foundries. It was an article of considerable use in the Roman pharmacopoea, and three varieties of it were distinguished by separate names: that called Cuprosas resembled ashes, was the lightest and most elenated, and was deposited at the first extent of the chimney; the second kind, named Botritis, depended in clusters from the central and lower part of the chimney, and was in high esteem for dyers; and the third variety, called Pleuritis, was a metallic scoria adhering to the sides of the furnace, and was used for wounds and cutaneous eruptions; its colour was either blue, or black, and, no doubt, contained a considerable quantity of copper.

Succeeding chemists injudiciously ranked as fessd cadmia not only calamine, but the arseneal and histmeric cobalt ore, and under the term Cadmia formum included all the kinds of metallic submutes that are deposited in the chimneys of fouding houses, whether of copper, brass, lead, tin, &c.

CDMUS, q. a. man from the cflfj, in fabulous History, is reported to be a native of Sidon in Phoenicia, son of Ageor, king of that country, and brother of Europa. Having been sent by his father's order in quest of his father Europa, who had been transported by Jupiter to the isle of Crete, and being forbidden to return without her, he wandered for a long time to little purpose, and, at length, despairing of success, he settled at Tanagra upon the river Ilium in the Grecian province of Boccia. He afterwards built Thebes, and laid the foundation of his new kingdom. The state, however, was, that the walls of the city were raised by the harmony of Amphion's lyre, and that he only erected a citadel to which was given his own name, and merely laid the foundation of Thebes. When the city was finished, he married Hermione, or Harmonia, the daughter of Mars and Venus; and his nuptials were graced with the presence of all the gods and goddesses. Juno excepted, each of whom conferred some gift upon the bride. His kingdom is said to have been very flourishing, and in the progress of his reign he was much beloved and respected by his subjects; though the anger of Juno, who envied his felicity, occasioned many misfortunes, which harassed and grieved him before its termination. By his wife Harmonia, he had a son named Polydorus, who succeeded him in the sovereignty of Thebes, by whom it was transferred to his son Labdacus, the father of Laus, to whom it descended, and who was the husband of Jocasta, the mother of Euseius. He had also four daughters, viz. Ino, who threw herself into the sea together with her children; Agave, whose son Pentheus was torn in pieces by the Baccantes, for profaning the rites of Bacchus; Autono, the mother of Adonis; and Semele, the mother of Bacchus by Jupiter, who afterwards slew her with his thunderbolt. After having experienced many differing vicissitudes, Cadmus is said to have retired with his wife Harmonia to the coast of Ilyria, where they were both changed into serpents, or as some interpret the fable, where they degenerated from their pristine civility into baboons. The fable also reports, that he fought with a mighty dragon, whose teeth he afterwards fired on the ground, and from them was produced an army of men, who fought against one another, till they were all killed except five: whence a dearly-bought victory obtained the appellation of 'Victoria Cadmea.' Some say that he
he was driven from the throne of Thebes by his grandson Pentheus; and that having commanded the Enchelus, who was at war with the Illyrians, he subdued the latter, and thenceforward the government to his son Hylas, who was born after his retreat to this country. To Cadmus, Greece is supposed to have derived its alphabet for the first introduction of letters, which are said to have been of Phoenician origin, and that at the time when their alphabet was first used, was, and are, the source of all the alphabets of the Greeks. Great and small letters were afterwards added by Callimachus, and four by Simonides. He is also said to have been the first who established schools, and who taught the Greeks trade and navigation; and the epitaph Cadmean, given to him, is ascribed to him, because he was the inventor of it, and because he first introduced the use of it into those parts. Wherever he came he also introduced the religion of his country, which conflicted in the worship of Dionysus, and in the rites denominated by the later Greeks the Dionysiac. They seem to have been much the same with the Cabiric mysteries, which Cadmus is said to have established in Samothrace. The arrival of Cadmus in Greece is placed by Dr. Blair about 1493 years B.C. and his death, at the age of 112 years, is said to have happened in the year 1432 B.C. The arrival of Cadmus, and the foundation of Thebes, are dated in the Arundelian marble the 64th year of the Attic era, 1519 B.C. But Sir Isæus Newton, and those who adopt his chronology, allow Cadmus to have flourished but 1035 years before the Christian era. Sir Isæus imagines, that the emigration of the Phoenicians and Syrians was occasioned by the contests of David. "These people," says he, (Chron. p. 1.) "fleeing from Zidon and from David, came, under the conduct of Cadmus, and other captains, into Apha Minor, Crete, Greece, and Libya, and introduced letters, music, poetry, metals, and their fabrication, and other arts, sciences, and customs of the Phoenicians. This happened about 1400 years before the Trojan war. It was about the 16th year of David's reign that Cadmus fled from Zidon. At his first coming into Greece, he failed to Rhodes, and thence to Samothrace, an island near Thrace, on the north side of Lemnos, and there married Harmonia, the sister of Japhus and Dardanus, which gave occasion to the Samothracian mysteries." Bechart has, with great ingenuity and learning, attempted to solve the enigmas, under which the history of Cadmus is represented. He supposes, that Cadmus was a fugitive Cannaite, who fled from the face of Jophua; and that he was so called from being a Cadmonite, which is a family mentioned by Moses. Gen. xxv. 9. These Cadmonites were the same with the Hivites, and were called Cadmonian, or Eilcrings, because they inhabited mount Hermon, the most eastern part of Canaan; and Bechart supposes, that Harmonia derived her name from that of this mountain. The fable of Cadmus and Harmonia being transformed into serpents he ascribes to their having retained the common name of Hivites, which in the Syriac signifies serpents. He explains the rise of the fable, concerning the teeth of the dragon, which were fowl, and the armed men which arose from them, upon the same principle. The learned Bryant (Anal. Anc. Mythol. vol. ii. 158) differs from Bechart in a variety of particulars. Indeed, he controverts the existence of such a person as Cadmus, and fuggles several objections against the account given by Herodotus and others of the Cadmins having brought letters from Phoenicia into Greece. See Letters. The rites of Bacchus, he says, could not have been brought by Cadmus into Greece, if Bacchus was his descendant, or the son of his daughter Semele. It is said, that Cadmus was a Phoenician; but Diodorus Siculus (ib. i. p. 20.) speaks of him as an Egyptian, and a native of Thebaia. Phercides Syrus also represents him as an Egyptian; and by others he is said to have been the son of Antiope, the daughter of Belus, and consequently of Babylonian extraction. It was from the same part of the world that the mysteries in which Cadmus was so well skilful, were imported; and here it was, that he was taught hieroglyphics, and the other characters, which are ascribed to him. These arts he carried first to the coast of Sidon and Syria; and thence he is supposed to have brought them into Greece. Mr. Bryant having stated the origin and country of Cadmus, proceeds to show what the accounts which are given of him by Herodotus, Diodorus, Strabo, and Pausanias, are insufficient to prove the reality of such an adventurer. It is not credible, he says, that a person should so often rove upon the seas amid such a variety of nations, and reside among them at his pleasure; much less that he should build temples, found cities, and introduce his religion wherever he lifted; and that he should do all this in the course of his transient visits to different places. Is it credible, that any person could have penetrated into the various regions, whether he is supposed to have gone? to have founded colonies in Phoenicia, Cyprus, Rhodes, Thera, Thasus, Anaphe, Samothrace, to have twice visited the Hellepont? to have worked the mines in the Pangean mountains, and in other places? to have made settlements in Euboea, Attica, Bœotia, and Illyria? and, above all, to have had such territories in Africa? He is represented as heir to the kingdom of Egypt: this he quitted, and obtained a kingdom in Phoenicia. He leaves this too; and after much wandering arriving in Greece; where he founds several cities, and reigns 63 years. After this, hard to conceive: he is made king in Illyria. He must also have reigned in Africa, and his dominions seem to have been considerable, as he founded an hundred cities. He is represented as a king in Armenia; and had there too small territory. Sure, kingdoms in those times must have been very cheap, if they were so easily attainable. But the whole is certainly a mistake: at least, in respect to Cadmus. No person could possibly have effected what is ascribed to him. They were not the achievements of one person, nor of one age. And place Cadmus at any given era, and arrange his history, as may appear most plausible; yet there will arise numberless inconveniences from the connexions he must have in respect to time, place, and people; such as no art nor disposition can remedy." Should it be asked, if there were no such man as Cadmus, what did the ancients allude to under this character, and what is the true purport of these histories? The answer of Bryant is, that the travels of Cadmus, like the expeditions of Periclus, Scolopers, and Oliris, relate to colonies, which at different times went abroad, and were distinguished by this title. Cadmus, he says, was one of the names of Oliris, the chief deity of Egypt. Both Europa and Harmonia are of the like nature. They were titles of the deity, but assumed by colonies, who went out and settled under these denominations. Cadmus was one of those deities. He was the same as Hermes of Egypt, called also Toth, Athoth, and Canathoth; and was supposed to have been the inventor of letters. He was sometimes called Cadmus, another name for Hermes; under which he was worshipped in Samothrace and Hellen. Lycurgus (v. 219.) speaking of the prophet Præclus in Libya, tells us, that he was the son of Cadmus, and of the race of Atlas. And he was the person who was supposed to give information to the Greeks, when they were upon their expedition to Troy. Harmonia, the wife of Cadmus, who has been esteemed a mere woman, seems to have been an emolument of nature, and the following nurse...
CADD

CADOEPAN, in Geography, an island in the Indian Ocean, S.E. of Boston, and near the islands of St. Matthew and Toureau-Delhis, in which many cloves are produced.

CADOGAN, William, in Biography, educated at Oriel College, Oxford, took his degree of master of arts in 1755; and the same year was made bachelor and doctor in medicine. He had previously, viz. in 1750, published a small treatise on the nursing and management of children, which was much esteemed, and contributed toward abolishing some improper treatment, both in feeding and dressing infants. They were first adopted by the managers of the Foundling Hospital, and by degrees became general. His next publication was "Differtations on the Gout, and all Chronical Diseases," 1764, 8vo., written in a popular manner, and to generally read, that several large impressions were fold of it. The three principal causes or sources of gout, he says, are indolence, vexation, and intemperance.

The book was much cavilled at, and was answered by two or three different writers. It is, on the whole, well written, and the regulations given for the conduct of gouty patients, with the view of mitigating the fit, and preventing frequent relapses, or returns of the complaint, are judicious, and well deserving attention. He was fellow of the college of physicians, and, which is by no means usual, spoke two Harveian Orations, the one in the year 1764, the other in 1793. They were both published. He died at a very advanced age, at his house in George-street, Hanover-square, April 26, 1797.

CADOINA, in Geography, a town of Naples, and province of Principato Ultra; 15 miles N.N.E. of Conza.

CADOLZBURG, a town of Germany, and prefecture of the same name, in the circle of Franconia, and gravissate of Anspach; the town is surrounded with walls, and defended by a cattle; 18 miles N.E. of Anspach.

CADORE, or Pieve di Cadore, a town of Italy in the Trevisian, and capital of the Cadore, or Cadorn, belonging to the states of Venice, and famous for the birth of Titian the painter; 42 miles N.E. of Trent. N. lat. 46° 25'; E. long. 13° 45' 30".

CADORE, or CADORIN, a small and mountainous district of the Trevisian, or Trevigiana, belonging to Venice; bounded on the north by the bishopric of Brixen; on the east by Friuli; on the south by the Bellunese; and on the west by the Bellunese and bishopric of Brixen; about 25 miles long, and from 10 to 15 broad.

CADOUIN, a town of France, in the department of Dordogne, and chief place of a canton, in the district of Bergerac. The place contains 623, and the canton 5833 inhabitants; and the territory includes 1521 kilometres, and 12 communes.

CADOURS, a town of France, in the department of the Upper Garon and district of Toulouse. The town contains 826, and the canton 6562 inhabitants; the territorial extent comprehends 1724 kilometres, and 17 communes.

CADRITES, a kind of religious among the Mahometans; whose founder was Abdul Cadiri, a great philosopher and lawyer; whence they take their name, Cadrites.

They live in common, and in a kind of monasteries, which, however, they are allowed to quit, if they request it, and to marry, on condition of their wearing black buttons on their garments to distinguish them from the rest of the people.

In their monasteries, they pass the greater part of every Friday night in running round, holding each other's hand, and

nurse of all things. Harmonia was supposed to have been a personage, from whom all knowledge was derived. Accordingly, Hermon, or Harmonia, was a deity to whom the first writing is ascribed; and the fame is that of Hermes. Cadmus is said not only to have brought letters into Greece, but to have been the inventor of them; from whence we may fairly conclude, that under the character of Hermon, Hermes, Taut, Thoth, and Cadmus, one person is alluded to. The deity called by the Greeks Harmonia, was introduced among the Canaanites very early by people from Egypt; and was worshipped in Sidon, and the adjacent country by the name of Bilal-Hermoe. Europa was likewise a deity; the same, according to Lucian, as Albarte, who was worshipped at Hierapolis in Syria. Cadmus, says Paul, may principally be esteemed Ham, who by his pottency was looked up to as the sun, and worshipped under his titles; a circumstant, which was common to all, who were filled of Balsam. His name favours this conjecture; for according to the etymological fyllem of this writer, the sun was called Ached, and Cadmus is a compound of Ached, Ham, rendered by the Greeks Academus and Academus, and contracted Cademus. Upon the whole, if instead of one person Cadmus, travelling much ground, and introducing the rites of his country, Rhodes, Samos, Thera, Thasus, Samothrace, and building to many cities in Libya, we supposethe things to have been done by colonies, who were filled Cadmians; all will be very right, and the credibility of the history not disturbed. Many difficulties will be solved; and great light will be thrown upon the mythology of the ancients. The story then of Cadmus and Europa relates to people from Egypt and Syria, who were abroad at different times, and settled in various parts. They are said to have been determined in their place of residence by an ox or cow; which denotes that they were directed by an oracle; and this leads us to the Egyptian Apis. The Cadmeans, according to Cadry, were a two-fold colony, which came both from Egypt and Syria; from Egypt first, and then from Syria and Cadmus. In their progress wellward, they settled in Cyprus, Rhodes, Samos, Lesbos, and Thrace; also in Euboea, Attica, and Beotia. In process of time they formed settlements in other parts, particularly in Epirus and Illyria; and occupied some considerable provinces in Italy, as high up as the Pudus. Wherever they passed or settled, they left behind them a variety of memorials; and especially such as related to their rites and worship. See CUTFERS.

CADMUS MILESUS, in Biography, an ancient historian, who, according to Moreri, lived about the time of the Trojan war. Phiny, in speaking of the invention of things, informs us, (ib. vii. c. 56,) that Pherecydes, a native of Syros, taught the composition of difcorump in prose, during the reign of Cyrus, and Cadmus Milesius to write history; and in another place (ib. vi. c. 29,) he says, that Cadmus Milesius was the first who wrote in prose. He composed, "The Antiquities of Milesus and of all Ionion," in 4 books: a work on this subject, mentioned by Dionysius of Halicarnassus, and attributed to this historian, was thought by the best judges, as he informs us, to have been superseded.

Another Cadmus, also a Milesian, was, according, to Suidas, much younger than the former; and wrote "The History of Attica." in 10 books.

CADNUS, in Entomology, the name under which Cramer figures the Brazilian species of Papilio, called by Fabricius Acheronta. The wings of this insect are indented, and furnished with tails; anterior pair red at the base, the tip black spotted with white. Fabr.
and crying incessantly. Ual, Epubi, one of the names of 
Cea; one of the number plays all the time on a flute, to 
animate them in this extravagant dance.

Cadsand, in Geography, an island on the coast of 
Dutch Flanders, at the mouth of the Scheldt, situated on 
the south side of the entrance into the West Scheldt oppo-
site to Flushing, so as to command the navigation of that 
river. It is preferred by elevated dykes constructed at great 
expense, from the inundations of the sea; and, nevertheless, 
exposed to danger, when the north-west wind blows with 
violeuce. The land is fertile, and yields excellent corn; 
the meadows are luxuriant, and the farmers make a 
considerable quantity of good cheese. The persecuted French 
and Saltzburgers found an asylum in this island. The 
chief town is Caflandria.

Caduceator, in Antiquity, a denomination given to 
heralds or messengers of peace. See Caducus.

Caducus, or Caducum, Mercury's rod or sceptre; 
a wand entwined with two serpents, worn by that deity 
as the ensign of his quality and office: and given to him, 
according to the fable, by Apollo, for his seven-strunged 
harp.

The poets attribute wondrous virtues to the caduceus: 
as that of throwing people into a sleep, raising the dead, 
&c. It was also used by the ancients as a symbol of peace 
and concord; the Romans sent the Carthaginians a javelin, 
and a caduceus, offering them their choice, of whether of 
war or peace.

Among those people, those that denounced war were 
called secundatos, and those who went to demand peace, 
caducatores; because they bore a caduceus in their hand.

The caduceus found on medals is a common symbol sig-
ifying good conduct, peace, and prosperity. The rod 
expresses power, the two serpents prudence, and the two 
wings diligence.

Wedelins has given a dissertation expressly on caducated 
medals. Bonniger in his "Griechische Vafengemahle, 
&c." or "Greekian Paintings on Vases" illustrated (vol. i. 
p. 2). Weimar, 1708, has faggelled some new and ingen-
nious ideas with respect to the origin of the caduceus. 
According to this writer, the deity called Hermes by the 
Greeks, and Mercury by the Romans, owed his imaginary 
existence entirely to the commercial intercourse of the Phr-
icians with the Greeks. At some remote period, the 
former had mines and factories in many places of Greece. 
There Hermes was worshipped as the tutelary deity of the 
industrious Phoenicians and all the arts, by which the arti-
cles of trade are produced, were ascribed by the Greeks to 
his invention. The Phoenicians, of course, in order to con-
verse with the rude natives, employed interpreters. Hence 
Hermes was considered as the inventor of articulate sounds, 
and of numeral figures and signs. The interpreters and he-
rals were called his sons, and the race of xépsi is said to 
have defended from him. The Phoenician traders, where-
ver they first approached the rude Peloponese inhabitants of 
the Grecian coasts, found it necessary to use some manifest 
token of their having arrived with peaceful intentions; not 
as pirates, but as merchants and barterers. In such in-
stances, the most natural sign of peace among all nations, 
even among the inhabitants of the Friendly Islands in the 
South Seas, has ever been a green branch. The Pheni-
cians, however, soon found it more convenient, as well as 
more ornamental, to carry with them a decorticated or 
even a girt staff; and, as occasion required, to wind round 
it green leaves. Such is the wand of Mercury in Homer. 
(Hymn. in Mercur. 529—532.)

Cæc

Caducus is also a name given to a kind of staff cov-
Cæc
ered with velvet, and decorated with fleurs de lys, which the 
French heralds of arms bear in their hands on solemn oc-
Cæc
tasions. That borne by the king at arms has a golden fleur de 
Cæc
ty at the end, and is by some called feught.

Caducus, in Botany, a term employed to express 
Cæc
the short duration of one part of a plant compared with an-
Cæc
other: thus, a caduceus calyx falls off before the petals, as 
in poppy and celandine; a caduceus corolla falls off imme-
Cæc
diately after its expansion, and before the anthers have 
Cæc
formed their pollen, as in aeschines and thalictrum. A flupus is 
Cæc
caducous, when it falls off before the leaf; and a breack, 
Cæc
when it does not continue as long as the flower. A leaf is also 
Cæc
said to be caducous, when it does not remain till the end of 
Cæc
the summer. It always implies a shorter duration than is 
Cæc
intended by the term deciduous.

Caducus Morbus, or Falling Sickness, in Med-
Cæc
icine. See Epilepsy.

Caducci, in Ancient Geography, a people of Gaul, 
Cæc
who inhabited the town of Divonia. Ptolemy. They are 
Cæc
mentioned by Cæsar, Strabo, and Pliny. Their territory 
Cæc
is the present Quercy, the capital of which is Cahors.

Cadus, an ancient liquid measure of capacity, contain-
Cæc
ing ten, sometimes twelve, composing sixty, and fifty, or on-
Cæc
to others, twenty-two deciliters.

The cadus is the name with what is otherwise denominat-
Cæc
ed stamates and ceraum. See Amphora.

Cadusia, in Ancient Geography, a country of Asia, 
Cæc
being part of Atropatene, according to Strabo.

Cadusis, or Cadusians, a people who inhabited the 
district lying to the south of Babylon, between the Tigris 
and the Euphrates. They were a powerful people, and 
enemies of the Assyrians; and their alliance was fought by 
Cyrus, in his war against the king of Assyria.

Cadyna, or Cadoria, a town of Acha Minor, in the 
Cæc
mountains of Lycaonia, according to Strabo.

Cadytis, a town of Acha in Syria, mentioned by He-
Cæc
rodorus, and supposed to have been Gath. As it was near 
the sea, it could not have been Jerusalem, as M. 
D'Anville conjectures. Others have supposed it to have 
been the Ceduia of Josephus, and others refer it to 
Gaza.

Cæca, in Icthyology, a species of Muraena, aperea-
Cæc
gious; with the fin somewhat acute. Found in the Me-
Cæc
diterranean Sea.

Cæca, in Zoology, a species of Nais, with lateral feto-
Cæc
wars, and without eyes. Found in the bays of Iceland and 
Cæca
Christianland, in Norway.

Cæca, a species of Nereis, sub-convex, with two very 
tentacules, and the lamella of the pedunculi duplicate 
ciliate. Fabr.

Cæcæl Gladiæ. See Glandes.

Cæcia, in Ancient Geography, the name of two il-
Cæca
les, which Pliny places in the vicinity of the Spirean pror-
Cæca
monty.

Cæcilia, in Entomology, an African insect of the Pa-
Cæca
pilus genus, the wings of which are white in the middle, 
with black dots; posterior ones margined with black, dotted 
beneath with white. Fabr.

Cæcilia is also a synonymous name of Papilio Am-
Cæca
ynctor of Fabricius, in the works of Cramer.

Cæcilia, in Ichthyology, among old writers, the 5th de-
Cæca
nominated by modern naturalists Syngnathus acus.

Cæcilia, in Zoology, a genus of serpents distinguished 
by having wrinkles on the body and tail, and two tentacula 
on the upper lip.

There
There are only two species of this genus at present known, namely <i>tantascuta</i> and <i>glutinosa</i>.

<i>Cælia</i>, the general name under which several creatures have been described by old writers, is commonly called Cælia major by them; Anguis fragilis of the Linnaean <i>Fa. Suec.</i> is named by different writers Cælia vulgaris, Cælia Géneri, and Cælia typhlus. <i>Abacroniaca</i>, Rey. &c. Cælia maculata of Catley is the Anguis centralis of Gmelin, &c.

Cælia Castra, in <i>Ancient Geography</i>, probably the Cælia of Antoninus, now Castrus, a place in Lusitania, according to Pliny and Ptolemy.

Cælitiana, in <i>Botany</i>, a name used by Pliny and some other authors for the <i>tulian</i>, or <i>andradium</i>. Sir. Emac. Ind. 2.

Cælius Statius, in <i>Biography</i>, a Latin comic poet, the contemporary and companion of Ennius, was a native of Infinian Gaul, or, as some say, of Milam, and lived at Rome in a fertile condition about the year 177 B.C. As a writer of comedy he was eminent, though Cicero finds fault with his Latin. Some fragments of his works are collected by Robert Stephens, and published in the "Corpus Poetarum," Lond. 1714. Nouv. Dict. Hist.

Cæcimacula, in <i>Entomology</i>, a species of <i>Phalaena</i> (<i>Novita</i>), with dentated grey wings, two black points at the base, and two crimson streaks. Fabr.

Cæcina, in <i>Ancient Geography</i>, a river of Italy, in Etruria.

Cæcinum, a town of Italy in Bruttium, watered by the river Cæcinus.

Cæcum, in <i>Anatomy</i>. See Cæcum.

Cæcus, in <i>Zoology</i>, a species of <i>Coluber</i>, duck-red, having its scales marked with a white spot.

Cæcutiens, in <i>Entomology</i>, a species of <i>Apis</i>, brown, with a smooth ferruginous abdomen, spotted on both sides with black. Fabricius. Found in the gardens of Lephe.

Cædius, in <i>Ancient Geography</i>, a river of Sardinia. Ptolemy.

Cælatura, or Cælatura, the art of engraving on metals, stones, woods, or the like, with instruments of steel, diamond, &c. See Sculpture.

Cælebs, in <i>Entomology</i>, a species of <i>Cimex</i> (<i>Rotundatus</i>), brownish grey, with three points on the femellum, and the apex yellow. Fabricius. Found in New Holland.

Cælestians, the followers of Cælestinus, a monk who flourished under the empire of Arcadius, about the year 405, and taught much the same doctrines as Pelagius.

The native country of Cælestians is not certainly known; some say it was Ireland; others, Scotland; and others say that he was a native of Campania in Italy. This, however, is certain, that he was detected of an illusorius family, and that, after having applied for some time to the study of the law, he retired from the world and embraced the monastic life. He accompanied Pelagius into Sicily in 408 or 409, and afterwards, in 411, into Africa; from thence he went to Asia, Rhodes, and the neighbouring islands, disseminating the doctrines of Pelagius, so that those who embraced them derived from him the appellation of Cælestians. Having been contrained to leave Constantinople in the year 416, he returned to Rome in the following year, and ingratiated himself with pope Zosimus, and obtained a letter in his favour to the African bishops. In 418, however, he was banished from Rome by virtue of a law enacted by the emperor Honorius against the Pelagians; but he afterwards returned, and was again ordered to depart from Italy. Accordingly he repaired to Constantinople, where for some time he met with a more favourable reception. At length, about the year 421, a memorial was presented against him and his accomplices, by Martin Mercer, the emperor Theodosius, and they were ordered to depart from the city. Of his subsequent history, and the termination of his life, the ancients have furnished no records. Cave, Hist. Lat. t. 11, p. 385. See Pelagians.

Cælestinf. See Cælestin.

Cælestini, in <i>Ancient Geography</i>, a people of Italy, in Umbria.

Cælestinus, in <i>Entomology</i>, a species of Cercus; exiguus, with the antennae and legs fangous. Found in Germany.

Cæletæ, in <i>Ancient Geography</i>, a people of Thrace, separated by the Hbrus. Some of them lived near Mount Hæmus, and others near Mount Rhodope.

Cælia, an episcopate of Africa, in Numidia.

Cælia, or Cælium, a town of Italy in Apulia.

Cælica, a town of Italy on a river of the same name.

Cælius Mons, a place of Vindelicia, N.E. of Lecius Brigantianus, and S. W. of Augusta Vindeliciorum.

Cælius Mons, the name of one of the seven mountains on which the city of Rome was founded, so called from Cælius, an Etruscan general.

Cælius Arbeleus, the only remaining writer of the sect of the Methodists in medicine, is supposed to have been a native of Sicca in Africa, although, as Haller observes, no reference is made to that country in his work. From his style, which is harsh and barbarous, Le Clerc supposed he lived in the 15th century. The work by which he is known is a translation into Latin of the writings of Soranus, an Ephesian physician, the head of the medical sect, to which he has added observations collected from other writers and from his own practice. It consists of eight books, three on acute and five on chronic diseases. They were first printed, "Celerum vel acutarium Paffionum Libri Tres," Paris, 1550, and "Tardarum Paffionum Libri Quinque," Basle, 1529, both in folio. Dalcopp, in 1567, published the work complete with notes, at Lyons, 8vo. It also enters into the "Medice Artis Præcepta," by Stephens and by Hailer. The work has the merit of preferring fragments from the writings of several ancient authors in medicine, which would otherwise have been lost, as well as of imparting a knowledge of their doctrines. The author is very free in his eulogies on the works he examines, and appears to have been an intelligent and attentive practitioner. He treats of several diseases not mentioned by any earlier writers, and has some observations in surgery peculiar to himself. He mentions an influence of hydrophobia occurring in a person who had not been bitten by any rabid animal, and of hydatids in some kinds of dryly. He had seen a fit of the gout terminate in apoplexy, in consequence of the too liberal use of bitter and acid substances. He recommends injections of oil for the cure of afebrades, or to destroy those worms; and has numerous other observations equally pertinent and ingenious. Le Clerc Histoire de Med. Hailer, Bib. Med.

Cæment, in a general sense, any composition of a glutinous or tenacious nature, proper to bind, unite, or keep things in cohesion.

The word is also written cement, and even cementum. It is formed from the Latin <i>cementum</i>, of cedus, I beat. Though M. Felhein observes, what the ancient architects called <i>cementum</i> was a very different thing from our <i>cement</i>. The name <i>cement</i>, with them, signified a kind of mastic, or

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manner of laying the flones, and even the quality of the flones; as when the walls were built of rude, unequal flones. In reality, the flones were cut for such work, but not squared or uniform; so that cement is void opposed to quadrati lapides.

Cement is particularly used in Architecture, for a strong binding of mortar, used to bind or unite bricks or flones together, for some kind of mouldings; or to make a block of bricks, for the carving of scrolls, capitals, &c.

It is of two sorts: the hot cement, which is the most common, is made of reifin, bees-wax, brick-dull, and chalk, boiled together. The bricks to be cemented are heated, and rubbed one upon another, with cement between.

The cold cement is left unused; and is made of Chelhire-cheese, milk, quick-lime, and whites of eggs. Mortar, folder, glue, &c. are cement. The bitumen brought from the Levant is said to have been the cement used in the walls of Babylon.

Equal quantities of powdered glass, sea-salt, and iron filings, mixed with loam, made a very hard and durable cement.

Mr. Boyle informs us, that the belt method to close and repair pipes of subterraneous aqueducts is with tobacco-pipe clay pulverized, and mixed with a large quantity of pulverized flours, and carefully heat up with linseed oil into a fluid paste. See Mortar and Tarras.

Cement is also used among Goldsmiths, Engravers, Jewellers, &c. for a composition of fine brick-dull, well fitted, reifin, and bees-wax; in use among those artificers to keep the metals to be engraved, or wrought on, firm to the block, &c. as also to fill up what is to be chiselled.

The receiver of an air pump may be hardened to a metaline plate by means of a cement of bees-wax and turpentines, made with equal parts, for the winter; and three parts of the former to two of the latter, for the summer. We have various receipts for making cements to mend broken china and glass: one of the finest, and at the same price more useful than any cement for this purpose, is the juice of garlic, rubbed in a stone mortar; this, if applied with care, will leave little or no mark. Another cement for broken glases, china, or earthen ware, may be prepared by beating the white of an egg very clear, and mixing it with fine powdered quick-lime; or fine glass; powdered chalk and a little lime may be mixed together, and dissolved in fair water; with which the glasses, &c. are to be cemented, and then let in the shade to dry.

Drying oil with white lead is also frequently used for this purpose; but where the vessels are not exposed to heat or moisture, fine glass glue, with a small quantity of tripoli, or chalk, is better.

Some have recommended a cement made by tempering quick-lime with the curd of milk, till it become of a proper consistence for use; but as cheese has a greater degree of tenacity than milk, the following composition will be preferable. Let the thin shavings of sweet cheese be strewed with boiling water; and when the tenacious slime has been worked with other hot water, let it be mixed on a hot stone, with a proper quantity of unflaked lime, into the consistence of a paste, and it will prove a strong and durable cement for wood, flone, earthen-ware, and glasa; and it has this advantage, that when it is thoroughly dry, it will receive no injury from water. C. Pajot, of Charlestown, lately transmitted to the Philomathic Society and the National Institute of France, small bits of glass, which he had joined and soldered to firmly, that the glasses would rather break close to the junction than in the fracture; but he concealed his process for this purpose. However, it is not difficult to be ascertained. By interposing between the broken parts a glas ground like a pigment, but more easily fusible than the pieces to be joined, and then exposing them to such a heat as will fuse the cementing ingredient, the pieces will be made to agglutinate without being themselves fused. A glas fit for the purpose of cementing broken pieces of flint may be made by fusing some of the same kind of glass, previously reduced to a powder, along with a little red lead and borax, or with the borax only.

A cement may be prepared for chemical glases that will bear the fire, by mixing equal quantities of wheat-flour, fine powdered Venice glas, pulverized chalk, with half the quantity of fine brick-dull, and a little killed lint, in the whites of eggs: this mixture is to be spread upon a linen cloth, and applied to the cracks of the glasse, and should be well dried before they are put into the fire.

Old varnish will likewise answer the same purpose. A very useful cement for joining alabaster, marble, porphyry, and other flones, may be prepared in the following manner. Melt two pounds of bees-wax, and one pound of reifin: add a pound and a half of the same kind of matter pulverized as the body to be cemented is composed of, and stir them well together; let the mass be kneaded in water, and heated when applied to the heated parts of the body to be cemented. The colour of this mass may be adapted to that of the body on which it is employed, by varying the proportion of the powdered matter added to the mass of bees-wax and reifin.

Jewellers, in joining pieces of precious flone that are accidentally broken in the operation of setting, employ a small piece of gum-mastic applied between the fragments, previously heated so as to melt the interposed gum. They are then pressed together so as to force out the redundant quantity of it. The Turkish cement for joining metals, glasa, &c. is prepared by dissolving five or six pieces of mastic of the size of peas in a sufficient quantity of spirits of wine, and dissolving as much mastic (previously softened in water) in brandy or rum, as will make two ounces by measure of strong glue; and adding two small bits of gum-calabash, or ammoniacum, ground or ground till they are dissolved; let the whole be mixed with sufficient heat, kept in a stopped phial, and when used set in hot water.

Kaffellyn recommends a cement for filling up cracks and fissures in iron vehicles, which consists of six parts of yellow potter’s clay, one part of the fillings of iron, and a quantity of linseed oil sufficient to form the whole into a paste of the consistence of putty. A durable cement for joining the flanxes of iron cylinders, and other parts of hydraulic and steam engines, may be formed by boiling linseed oil, litharge, red or white lead, duly mixed, and applied on each side of a flannel filling the joint, which should be put between the pieces before they are closely united by screws or other fastenings. Another cement that will stand the action of boiling water and steam, may be prepared by rubbing in a mortar and thus mixing together two ounces of sal-ammoniac, one ounce of flowers of sulphur, and 150 ounces of caol iron filings or borings. When this cement is wanted for use, one part of the above powder, and 20 parts of clean iron borings or filings, should be intimately blended by grinding them in a mortar, and when used, moistened with water, and applied to the joints with a wooden or blunt iron spatula.

Copper-smiths often apply to the rivets and edges of sheets of copper in large boilers, and in order to secure cocks from leaking, &c. a mixture of pounded quick-lime
lime with ox's blood. This must be used when fresh made; and it is both cheap and durable.

For an account of Higgins's water cement for building, repairing, and plastering walls, and for other purposes, see STUCCO.

The best cement for electrical purposes is made with two parts of resin, two of bees-wax, and one of the powder of red ochre. These ingredients are melted, and mixed together in any vessel over the fire, and afterwards kept for use. This adheres well, is less brittle than resin, and infuses as well. A strong cement for such purposes may be made by melting one pound of resin over a slow fire, and adding it in such manner to the wax, as to be sufficiently hardened; and then adding a spoonful of linseed oil, stirring it during the mixture. A cement for glaze-grinders may be prepared by mixing fine sifted wood-ashes with boiling pitch, and adding a little tallow, as may be found necessary. Shell-lac is a good cement for holding metals, glaze, or precious stones, while they are cut, turned, or ground. Flour paste is used as a cement by book-binders and paper hangers; and they sometimes mix with the wheaten flour a fifth or sixth of its weight of powdered resin or alum, and if it be defined of a more tenacious consistence, they add gum-arabic, or any kind of size. Japanese cement, or rice glue, is made by well mixing rice-flour with cold water, and gently boiling it. This is extremely useful on a variety of occasions; particularly in the preparation of curious paper articles, as tea-trays, dressing-boxes, and other such things, which require layers of paper to be cemented together. With this composition models, blats, statues, and pillow-relieves, may be formed; and they admit of a high polish.

For the manner of preparing a cement to bind together the various embellishments of grottoes, see GROTTO. See also GLUE, LUTE, Paste, Putty, Size, and SOLDER.

Cement, for gilding tiles. See Gilding of tiles.

Cement, in Chemistry. See CEMENT.

Cement, calcareous. See CEMENTS, calcareous.

Cement, or ziment copper, is copper precipitated from vitriolic waters by iron. The name is derived, it is said, from a vitriolic water in Hungary, called ziment.

Cement-pots, in Affixing, are vessels made for the cementation of metals. See CEMENTATION.

CEMENTARIUS, in Entomology, a species of CANcer, (AptAc) with a smooth cylindrical thorax, obtuse front, and acuted hand claws. This kind is frequent in the rivers of Chili. Molin. Hill. Nat. Chili.

CEMENTATION. See CEMENTATION.

CAEN, Lat. Cadomus, in Geography, a city of France, before the revolution, the capital of Lower Normandy, now the capital of the department of Calvados, feated in a vale at the confluence of the rivers Orne and Odon, and communicating, at the distance of about seven miles from the sea, with the English channel. Its northern and southern suburbs contain 35,900, and its two cantons 36,817 inhabitants; its whole territorial extent comprehends 87¼ kilometres, and 12 communes. The four towers of its gate were built by the English; its town-hall is a large building with four towers; its royal square, or place royale, is spacious and regular, having fine houses on three sides of it; and in the middle an equilateral statue of Louis XIV. in a Roman habit. The abbey of St. Stephen was erected by William the Conqueror, and he was buried in it. The university of Caen was founded by John, duke of Bedford, regent of France, by the authority of his nephew Henry VI. in 1431, and its establishment together with the privileges granted by him, was confirmed in 1439, by two bulls of Pope Eugenius IV. its academy of literature was instituted in 1706. This city has had great trade, which has principally consisted in cloths and fine linen.

Caen, as a part of Normandy, was formerly subject to the kings of England. In the year 1064 it was seized by Philip Augustus, King of France, and remained under the dominion of that crown till the year 1346, when it was captured, after a long and destructive siege, by Edward III. In 1417, it was again taken by the troops of Henry V. and remained in the possession of the English till the year 1448, when it was taken by Charles VII. king of France. N.-lat. 50° 11'' 10'', W. long. 0° 21'' 47''. High water at spring tides at 9 o'clock.

Caen, is also the chief city of Caen in South America. See CAEN.

CAENE, or Canepolis, in Antiquity Geography, a town of Peloponnesus in Laconia, placed by Pausanias at the distance of 46 stadia from the promontory of Tenea, and anciently denominated Tenea. It had two temples, one dedicated to Ceres, and another to Venus.

CAENoL, or Canopolis, the Caene emporium of antiquity, a town of Egypt in the Panopolitan nome, mentioned both by Herodotus and Ptolemy, and supposed to be the present Chene or Kene; which see.

CaeN, a small island in the Mediterranean, between Sicily and Africa. Pliny.

Cane, or CAEN, Sena, a town of Afia in Melopotasia, on the bank of the Tigris, over against the mouth of Zabas Minor.

CAENUS, in Entomology, a species of Papilio with very entire inunctuous wings; posterior pair beneath with a red orb consisting of nine spots. This is a native of South America. Linnaeus.

CAEN, in Ancient Geography, a people of Thrace mentioned by Livy and Steph. Byz., and called Canici by Pliny. They are supposed to have inhabited that part of Thrace, which is contiguous to the Propontis. Their country was called Canica regno, and Pliny places it in the colony Flavopolis.

CAENINA, a town of Italy on the confines of Latium, and the country of the Sabines, whence some geographers make it a city of the Sabines, and others refer it to the ancient Latium. Cluverius places it on the banks of the Anio next to Rome; but Holtenius thinks that it stood on the opposite bank in the vicinity of the present Monteicelli. Fellus says, that it derived its name from Cenis its founder; and Dionyius of Halicarnassus informs us, that it was one of the first cities which declared against Rome. In the content its king was slain, and the Cenperorcs defeated Their city was razed, and the inhabitants removed to Rome, where they enjoyed the privileges of the most ancient citizens. It afterwards became a Roman colony.

CAENIUS, or Cænis, a town and promontory of Italy, in Bruttium, upon the straits of Sicily, N. of Rhegium, and opposed to Methana or Methena.

CAENITARUM infans, an island mentioned by Arrian in his Peripius of the Erythrean sea, and supposed to be the Kavatha of Ptolemy.

CAENON, a place of Afia in Armenia Minor, mentioned by Strabo and Plutarch.

CAENOS Hydros, a place of Egypt, in the route from Coptos to Berenice.

CAENOPHRURUM, a place of Thrace in the road from Constantinopel to Heraclea, according to the Itinerary of Antonine. Here the emperor Aurelian was slain. It is placed by M. d'Anville N.W. of Selypoia.

CAENOPOLIS. See CAEN.

CAENOPTERIS, in Botany, (from κανον, new, and ωπτερες, 4 R 2 a fern,)
C A E

C A E


Gen. Ch. Fructifications in lateral, nearly circular, lines; covered with a membrane opening on the outside.

Sp. 1. C. rhizophyllum. Smith i.e. ind. 2, 50. "Frons bipinnate, rooting at the tip; pinnules biweekly egg-shaped, somewhat sickle-shaped, petiolate; primordial leaves 1.5 dm round, brown; common peduncle or rachis round, brown, smooth, elongated at the tip, leaflets, bullate, rooting; partial peduncles green, flattened, sometimes wrged: pinnules alternate, or short peltate, inserted, all-nerved, oval-shaped; fructifying, slightly sickle-shaped, often toothed at the tip, even, the upper ones usually confluent; all dusty green. Fructifications in short, solitary, lateral lines, beginning at the navel towards the base of the pinnules, and covered with an entire feathery brown membrane, opening always on the outside, at length turned back and permanent. When the capsules have emerged from the fructifying chink, numerous forked, brown, glosy threads fill up, which are the expanded rings of the capsules."


CÆRUGIA, in Geography, a town of Thrace, placed by Procopius in the province of Rhodope.

CÆNUS, a river of Galia Narbonensis, supposed to be the Ore, which fee.

CÆR, in British Antiquity, a term which, like the Saxon Cheffer, denotes cattle, and is prefixed to the names of places fortified by the Romans.

CÆRDIFF, in Geography. See CARDIFF.

CÆRE, in Ancient Geography. See AGYLLA.

CÆRESI, a people of Germany, placed by Cæfar (Bell. Gall.) between the Condurii and Pannii, and referred by d'Anville to the vicinity of the river Cliers, which runs from Luxemburg into the Meuse.

CÆRFILY, CÆRPHILLY, or CÆRPHILLY, a small town of Glamorganshire, South Wales, formerly by traditiovery account much larger than it is now, is only remarkable for the ruins of its once external castle, and the historical events connected with it. The name Cærhilly signifies cattle or hall, and it is said that great numbers of hands were employed to raise this fortress with expedition. Its ground plan covered an area of two acres, and its fos for was crossed by thirteen drawbridges. At present the ruins, says Mr. Evans, "more resemble the remains of a city, than a single edifice; and when uniled, exceeded the enormous site of Windsor castle."

The citadel, with circular bastions, a range of apartments round the inner court, the grand hall, some towers, &c. are still remaining, and whether viewed as objects of picturesque beauty, or specimens of ancient castellated architecture, they are highly interesting. Within two moats is the citadel, appearing like a separate castle, with a high Gothic arch, the centre supported by two circular bastions. This great gateway, the western entrance of the ruins, is grand and perfect, and leads to the splendid structure of the inner court from the well, as the gate with the hexagonal towers does from the cell. The inner court is surrounded by a range of noble apartments, communicating with a long gallery, to which there is an ascent from the mint, and affording a ready intercourse between the guards, who occupied the embattled towers. This corridor remains entire from the extent of about 90 to 100 feet, on the south side, except in the breaks of the flair-cales. The great hall, which is spacious and complete, exhibits a fine specimen of Gothic grandeur; and the ornamented outline of its four windows and chimney-pieces are hardly to be paralleled, together with several light pillars in triplets, that go round the room, which is about 70 feet by 30, and 17 feet high. The north window of the chapel is not only perfect, but uncommonly light and elegant. The mint is underneath, near the inclining tower, arched in a curious manner, and furnished with two furnaces for melting metal. In the interior court, at the east end, is the leaning tower, an object of considerable curiosity and general admiration. It is of a circular shape, about 75 feet high, and inclines full 14 feet out of the perpendicular. About half way down from the summit a fissure divides it, which was probably made when it was undermined. A similar instance of a leaning tower exists at Bridgeport, others at Corfe castle, and the most considerable we have heard of is that at Pisa in Italy. The immense pile of Caerpilly castle appears to have been erected at different times, and the style of building displayed in some of the exterior works indicate the time of Edward I. Here that ill-fated monarch fixed his summer resort, when pursued by his unnatural and brutal queen. With his favourite the younger Spencer, he retreated here from the forces belonging to the queen and barons, who besieged the castle, A. D. 1237, but the monarch, however, afterwards escaped. The late Mr. Daines Barrington has offered, in the first volume of the Archæologia, some reasons for supposing that Caerpilly castle was built by Edward I. and in his authority many late modern writers have acquiesced. But Mr. Malkin (ubi infra) has suggested a variety of circumstances, which invalidate this account; and particularly that of king Edward having no jurisdiction at that time in Glamorgan. From some historical documents, deduced from Welsh authors, it is inferred, that this castle was built, or rebuilt and fortified, in 1224, by John de Drue, who married the daughter of Llewelyn ap Jarweth, prince of North Wales; and that, after it had been taken and partly ruined, in 1270, at which period it first obtained the name of Caerphilly in the Welsh history, it was rebuilt by Ralph Mortimer, who married Joan of Acers in the time of Edward I. and settled this castle on him and his heirs; and that, in process of time, it was again greatly augmented and strengthened by Hugh Spencer the younger, whose wealth appears to have been fully equal to such an undertaking. Many important public events are connected with the history of this once formidable fortress. The trade of Caerpilly has lately improved in consequence of the establishment of three woolen manufactures; the effect of which is observable in traffic on the roads, and population in the town. "Evans's Tour through South Wales," Svo. 1824; and Malkin's "Scenery, Antiquities, and Biography of South Wales," 4to. 1824.

CÆRIANA, a town of Spain, placed by Ptolemy in Britzica, in the country of the Turdii.

CÆRITICES, CÆRITUM tabula, in Antiquity, denote the consors' tables, wherein were entered the names of such persons as, for some mendicant order, were to lose their right of suffrage in elections at Rome.

The original of the appellation arose hence, that during the captivity of Rome under the Gauls, the Cæritices, or inhabitants of Cære, a city in Etruria, preferred their sacred books, and other matters belonging to the worship of the gods; in gratitude for which, the Romans dignified the Cærities with the appellation of Roman citizens, but without admitting them into any part of the administration. See AGYLLA.

CAERLEON, in Geography, a small town of Monmouthshire, England, is more celebrated for its ancient, than for
for its modern importance.
Under the Anglo-Roman dynasty, it was the Itea Silvanus, the Caer Legionis Secondi of Antoninus, and the seat of government in that division of this island called Britannia Secunda. During the height of Roman splendour and dominion, this place continued a scene of pomp and luxury, as may be fairly inferred from the following description, by Gyllias Cambrensis, who wrote in the 13th century. "Many remains of its former magnificence are still visible. Splendid palaces, which once gilded the grandeur of Rome, for it was originally built by the Roman princes, and adorned with vast edifices; a gigantic tower, numerous baths, ruins of a temple, and a theatre, the walls of which are partly standing. Here we find, both within and without the walls, subterraneous buildings, aqueducts, and vaulted caverns, and flowers so excellently contrived, as to convey their heat through secret and imperceptible pores," &c. In confirmation of the monk's account, various antiquities discovered at different periods bear ample testimony. Earthen vessels of curious workmanship, tessellated pavements, phials, braes fibula, Roman bricks inscribed "L. g. 11. Aug. ;" an altar to the emperor Aurelius Antoninus; another to Jupiter, under the appellation of Dolichenius, as the patron of iron mines; another, as supposed, to the goddess Africa; and many other votive altars, monuments, statues, inscriptions, and Roman coins from Caesar to Valentinian inclusive, with mould of the intermediate emperors.

In several places the walls are still visible, but fearlessly sufficient to point out the original extent of the city. While the name of the parish, Llangattock jucca Caerleon, seems to favour the opinion that the old city was wellward of the present town, perhaps most of the buildings on that site were extra urbis; and formed fabrars, as appears from the direction of the western wall. Several barrows and mausoleums have been found, with pillars formed of circular bricks, not unlike those used by Paullus in some of the public structures at Venice. North of the town is a high mound of earth, called the Keep, said to have had formerly a strong tower on its summit; and a variety of stones lying at its base strengthen the assertion. It was probably a Roman edifice. On a rising ground, about half a mile distant, is a large square encampment, and seven smaller ones are in the vicinity.

Caerleon appears, on a superficial view, to occupy a flat position; but in reality, that portion of the present town, which is included by the Roman walls, is placed on a gentle rise, connected at one extremity with the lower part of the eminence, on which the encampment of the Lodg is situated. This rise itselfs on the west and south sides towards the Usk, and on the call towards the Avon Lively, and seems to have formed a tongue of land, which, before the draining of the meadows, was probably a kind of peninsula. Hence, the fortresses, from its position on a rise between two rivers, and almost surrounded by marshy ground, was a place of considerable strength, and well adapted to become the primary station of the Romans in Britannia Secunda. The area in which this Roman fortress was built, cannot be precisely ascertained; but Horley supposes, that the Romans first settled here in the reign of Antoninus Pius. It is mentioned in Antonine's itinerary; and the numerous coins of the early emperors, which have been discovered here, seem to confirm this opinion. The walls, however, appear to have been constructed under the lower empire.

According to Richard of Cirencester, Caerleon was a Roman colony, and the provincial station in the country of the Silures. In a field close to the banks of the Usk, and near the south-west side of the wall, is an oval concavity, meafur-
and well supplied; provisions in general are cheap, and fields exceedingly reasonable. A considerable iron foundry and tin-plate manufactory furnish employment to a number of hands. The fleming houles for lead ore, dug in the northern part of the county, belonging to lord Cawdor, are now shut up. Here are a small port and quay for coasting vessels, principally to Bristol and London. The tide rises at the bridge from eight to twelve feet; but, owing to the shallows in the bed of the river below, vessels of much burthen find a difficulty in coming up to the quay. Since the decline of the trade at Kidwelly, that of Caermarthen has increased; and with spirit and property much more might be done. Here is a ropewalk; and a few vessels are built for sale. Adjoining Lannina-leStreet are the walls of a priory of Frates Grifer: this was a cell in the custody of the abbey of St. Augustine at Bristol. In Priory street the shell of another religious house is still standing, which was appropriated to Black Friars, or canons of St. Augustine, and founded before the year 1148. The entrance into the court is by a bold gateway, over which are the arms of the founder. The principal apartments are still distinguishable, and the tracery of some of the windows almost entire. Gyralus mentions it as being, in his time, surrounded with brick wall; some remains of which, towards the river, are still extant. This town is famous for having given birth to Merlin Ambrofi, the reputed magician, of whom many fabulous stories have been related. Selden confers Merlin or Merthin (whence Caertyrddin) as having derived his name from the town; but the general opinion is, that Caer-Merlin, or Merlin’s town, was so called from Merlin’s being found there. Not far from the town is a hill, called Merlin’s Hill, near the brow of which is a rock, known by the name of Merlin’s Chair, in which, it is said, that famous prophet used to sit, when he uttered his prophecies. Caer-marten lays claim to Roman origin. It was the Mari- dunn of Antoninus, and long the seat of the South-Walian princes, where they held their great national councils, or occasional parliaments. Nor is it less conspicuous on the subsequent page of history. It was esteemed of so much importance as to become an enviable object with every hostile party, and repeatedly sacked, pillaged, and burnt, by both friends and enemies. By whom it was fortified, and its castle built, there are no authentic documents to show; nor do we hear much of it, till the era of difficulty and conflict to the Welsh, occasioned by the unjustifiable invasion and unprecedented cruelty of the Anglo-Normans. On the accession of Henry I. to the throne, Wales became a new theatre for the display of iniquity; and the oppressive measures and alienations of property, which before were chiefly confined to the borders, were extended to the interior; in consequence of which the royal residence was removed to Dinevor, and Caermarthen was rendered a strong fortified town. In 1116 we find it in the hands of the Eng- lish, held for the king by Owen ap Coradoc. But Gryf- fydd ap Rys, who well knew the importance of this place, sent spies to survey the works and ascertain their strength: having received a favourable account, he suddenly marched at night, rushed on the town, and by a coup de main took possession. The governor was killed, the garrison fled; and Gryffydd, having burnt the place, and dismantled the castle, returned with his spoils to his residence at Strata Towy. It was again laid in ashes, in 1137, by Owen Gwynedd; rebuilt and fortified by Gilbert earl of Clare; about the year 1143; taken by Cadell son of Gryffydd ap Rys; and again in possession of the English under William Tuberville, who, when it was besieged by Rhys in 1158, destroyed the bridge, at that time of wood, for its better security and de- fence. Though Rhys was unsuccessful at this time, he took and defaced it in 1195, after quelling the unnatural rebellion of his sons. In the reign of John, 1195, it was taken; and the castle was raised in 1222 by Llewelyn, who, taking advantage of the absence of the earl of Pembroke, the governor, took this fortress and Cardigan, putting the garrisons to the sword. We find it soon afterwards in the possession of the English, when the same earl of Pembroke, having conferred with the Welsh, blockaded it ineffectually for three months. The remains of this important fortress are still visible on a rocky eminence; additions have been lately made, and it is now used as the county gaol. When this territory was erected into a principality by the crown of England, the chancery and exchequer courts were held here. Caermarthen was created a borough town, 35 Henry VIII. with the privilege of returning one member to parliament. It contains 945 houses, and 548 inhabitants, has two weekly markets, Wednesday and Saturday; considerable trade, but no internal manufacturers; and is situated 226 miles W. from London. Evans’s Tour through South Wales, 8vo. 1804.

CAERMARTHENSHIRE is one of the southern counties of Wales, bounded on the north by Cardiganshire, on the east by Brecknockshire, on the west by Pembroke- shire, and on the south by Glamorganshire and part of the sea. Its extent from coast to coast is above forty-five miles, and only about twenty in the longest diameter from north to south. The general surface of this tract of country is hilly, which in the northern and eastern parts rise into mountains. As in most hilly territories, the valleys are chiefly narrow, and well watered with mountain streams, which in stormy weather rush down in torrents. Among the vales that of the Towy or Tawy is the principal: this crosses the whole of the county, and in some places is above two miles in breadth, and abounds with beauties.

The principal rivers are the Towy, the Taw, the Cotby, the Dulas, and Gwilly: the former has its source among the Cardiganshire mountains, and after its entrance into this county, at the northern boundary, is reinforced by a con- tinual succession of those numerous streams which give beauty and fertility to the landscape. Before the Towy reaches Caermarthen it receives the Cotby and Gwilly; the Cowen brings with it the Town and Carkenny; and the Taw receives the Morlas and Care.

The climate and soil of this county are much celebrated, though the lands are not found favourable to wheat. Barley and oats are the most profitable crops, and great quan- tities of the latter are annually exported to Bristol. Black cattle and horses are bred in abundance on the hills, and are the chief article of traffic in the neighbouring fairs. Wood, though still plentiful, has suffered great defaulation of late years. The county abounds with limestone, and coal is obtained in many parts of it. Iron-works, tin-works, and lead mines, also abound, which, combining with the local advantages, and with a supply of butter, stone-coal, bark, and oak timber, render the export trade very considerable.

Caermarthenshire is divided into six hundreds, and includes six market-towns, and eighty-seven parishes, which are within the diocese of St. David’s and province of Canterbury. It returns two members to the imperial parliament, one for the county, and one for the principal town. Some vestiges of Roman roads, and other monuments of remote antiquity, are remaining visible in this county. Near Whi- land is a circle of upright stones; and between the rivers Cowen and Towa is a remarkable barrow, which enclosed a kithaen. At Whiland is an encampment supposed to be Roman from the Roman coins that have been found within its valley.

CAERNARVON, the principal town of Caernarvonshire, is justly the boast of North Wales, for its situation, buildings, harbours, &c.; but above all, for the grandeur of its once magnificent castle. It is situated on the eastern bank of the river Menai, the ftrait that divides the isle of Anglesea from the other parts of Wales. This was the ancient Segontium, mentioned by Antoninus; it was a Roman station in the time of Conlantine; and Matthew Paris says, the body of Conlantinus, the father of that emperor, was found buried here, A.D. 1283. The site of the old city is about a mile distant, by the road to which from Pwllheli it is interfected. The remains of a Roman road are still visible from this place to Dinorwig. It lies on the eastern banks of the Seiont. Some remains of the walls are still to be seen, the cement of which appears as hard as the stone itself. A single stone remains here, with these letters S.V.C. probably for Segontium Urbs Conlantinii; Helen, or her husband Conlantinus, having built it. It was defended by a fort, erected on the steep western bank of the Seiont, where it forms a curve, about four hundred yards from the present town. The walls are about twelve feet high, and about eighty yards square, with circular parallel holes running the whole length. Where the facings are dilapidated, the peculiarm of Roman masonry is easily discoverable. This town, after the departure of the Romans from the island, was occupied by the Britons, and by them denominated Caer-ar-fon, i.e. a strong hold opposite Mona, which with the infertion of n for harmony, made Caernarfon. Gyraldus mentions it as a considerable place in 1138; and a charter, dated 1217, issued by Llewelyn the Great, proves that it did not receive this name from king Edward. At a very early period it was the seat of the British princes. Roderic refided here in 750; and by a posterior Roderic the royal residence was removed to Aberfraw in Anglesea. Out of the ruins of the ancient town arose the present, which by a charter of king Edward I. was made a free borough, governed by a mayor, who is pro tempore deputy-governor of the castle, one alderman, and two bailiffs; there are also a town-clerk and two ferjeants at mace. The town sends one member to parliament, who is returned by the joint suffrage of Conway, Pwllheli, Nefyn, and Crickaeth; and the right of voting extends to every person resident in these places.

An extraordinary privilege was granted to Caernarvon, that no burgeses could be convicted of any crime, committed between the Conway and the Dwyry, but by a jury of his towns- men. The town was originally contained within its present walls, but the suburbs are of greater extent than the town: the streets are at right angles corresponding with the four gates; the houses are well built, and the streets clean, but, as in all other ancient towns, narrow and confined. It is become a place of fashionable resort, during the summer season; the elegant hot and cold baths, erected by the earl of Uxbridge, having added greatly to its celebrity. On the outside of the walls is a broad and pleasant terrace walk along the side of the Menai, extending from the quay to the north end of the walls, which is a fashionable promenade in fine evenings. Caernarvon is in the parish of Llan-Beblig, and the church is situated about half a mile from the town. It contains nothing remarkable, except a marble monument, with two recumbent figures of Sir William and lady Griffith of Penllyn, who died in the year 1487. The service is always performed here in the Welsh language. There is an English service every Sunday morning and afternoon, in the chapel of ease to this church, situated on the north-west corner of the town: the former is generally very well attended.

The entrance to the port of Caernarvon is rather dangerous, from the extensive sand-banks near; but the harbour is capacious, and vessels of six or seven hundred tons ride in security; and the quay is peculiarly convenient, as large vessels can come close to it, and deliver and take in their cargoes. The trade has of late years been increasing, though at present it confines more of exports than imports. Slates, &c. are sent to Liverpool, Bristol, and London; copper ore from Llanberis and Paris Mountain to Swansea; flannels, web, flocks, and an ochre found in Anglesea, to America and the West Indies. The imports consist chiefly of Irish cloth, fine wool, hides, tallow, and grocery goods, for the use of the interior. There is a weekly market on Saturday. The county assizes are occasionally held here; and the room over the eastern gateway, formerly used as a cuflom-house, is converted into the fiefsome-houfe, where all the county business is transacted. This was done, as an inscription in front informs us, by the munificence of Sir William Wyne, and his nephew Thomas Wyne eq. A.D. 1707. A new custom-house is erected within the walls on the Menai, much more convenient for the commerce. The port is subject in its customs to the comptroller of Beaumaris. Caernarvon is distant from London 244 miles N.W.

CAERNARVON is also a township of America, in the county of Lancaster and state of Pennsylvania.
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called from a figure of that bird placed at the top, is peculiarly beautiful, three small circular turrets rising from it. A magnificent apartment is shown in this tower, where, by the well-known artifices of Edward I., his queen Eleanor was delivered of her son Edward, the first prince of Wales, April 25, 1234. The walls of the eagle tower are ten feet thick, and those of the turrets in general eight. A gallery runs all round, with frequent openings for the discharge of arrows on the besiegers. A short time after the erection of the castle, the strength and importance of it were to be tried. A general insurrection was excited in different parts of Wales, in 1264, on occasion of a subsidy levied on the new subjects. Madoc, an illegitimate son of the unfortunate Llewellyn, flying himself prince, put himself at the head of the insurgents of North Wales, and proceeded to Caernarvon, which was crowded with people attending an annual fair. The unarmed multitude were barbarously slaughtered, the town reduced to ashes, and the castle taken. In 1304 this fortress was blockaded by Owen Glyndwr's adherents, but was bravely defended for the king, that the besiegers, finding their efforts fruitless, thought proper to retire. In 1303 the town was taken by captain Swanley, a parliamentarian, who pillaged it of the rooks, arms, and ammunition, making four hundred prisoners: the royalists afterwards dispossessed him. While Lord Byron was governor, it was besieged by general Myott in 1646, and surrendered on an honourable capitulation. In 1648, general Myott and colonel Milton were blockaded by Sir John Owen, who, hearing that colonel Carter and Twillerton were advancing to relieve the town, raised the siege and marched to oppose them. The parties met at Llandegai; Sir John was defeated and made prisoner, and North Wales soon after submitted to the parliament. This castle, like its rival in strength and grandeur, Conway, is going fast to decay; and the dilapidating hand of time promises soon to deprive the country of one of its principal architectural ornaments. Evans's "Tour through North Wales," 8vo. 1802. Bingham's "North Wales," 2 vols. 8vo. 1833.

CAERNARVONSHIRE, is the name of one of the counties of North Wales. It is the most mountainous district in the whole principality, and affords a truly rugged and alpine appearance. The most central part of it is occupied by that vast eminence, named Snowdon, with several other formidable hills. This county is very irregularly shaped, and is bounded by the sea on the west and south, the lakes of the Merioneth, which separate it from Anglesea, to the north, and the counties of Merioneth and Denbigh to the east. This area of country measures about forty miles from north to south, and twenty from east to west. It is divided into seven hundreds, which are again subdivided into seventy-one parishes. The principal places in the county are the city of Bangor, the town of Caernarvon, and the town of Conway. According to the population reports, published by the house of commons, the whole district contains 5,455 houses, and 4,452 inhabit-
ts, of whom most are employed in agriculture and mining. All the mountains in this county, as well as some of the low grounds on the western side, are commons; the former are chiefly depauperated by sheep, and the latter by black cattle. It is a custom among the farmers to meet annually, and determine what number of sheep each shall tend to the mountains; yet in spite of any argument, the pasturage is generally overstocked. It is common with some persons to fell this privilege at 4d. per head for the sheep, which is commonly from May, when the sheep are driven up, until Michaelmas, when they are brought down. In most ce-
itizens of this county, it is stated, that the families go up and wholly live on the mountains in the summer season, to attend their flocks, to make cheese, &c., but this is denied by Mr. Kay in his "General View of the Agriculture of the County," who says, that no such custom prevails. The wether only are sent up, and the ewes are always kept in the low grounds with their lambs. When the latter are weaned, the ewes are milked for about two months; and the produce of these is mixed with the cows' milk for making of cheese.

The exportation of slates is the principal trade from this county. These are shipped in large quantities from Caernarvon; and it is calculated by Mr. Kay, that above 3,500,000. worth are annually sent from this part of the country. Wool is also an object of considerable importance to the farmers and peasantry, many of whom are employed in manufacturing it into cloths, flannels, &c.

Of the rivers in Caernarvonshire, the Conway is the principal. This bounds the eastern side of the county, and is navigable for about 12 miles from the sea up to the interior of the country. Increased by various mountain torrents, it sometimes falls itself into a vast expanse, and in the early part of its course forms some grand cascades. Many of the rivers of this county either proceed from, or form in their course, lakes of various sizes. These are chiefly in the declivities of the mountains, and most of them are abundantly stocked with fish, among which, the char, and the grayland, are very prevalent.

The most considerable mountains are Snowdon and Penmaen-Mawr. The former is estimated to measure 3,505, or, according to other statements, 3,568 and 3,600, feet above the level of the sea at Caernarvon Quay. It is connected with a chain of other hills ranging through the county in a direction from N.E. to N.W., extending from Aberconwy to the sea, at Aberdaron. The rocks composing the higher part of this chain are principally porphyry, granite, and granitic of Kirwan; the secondary rocks are chiefly hornblende, schiller-fspar, toadstone, schistus-nica, schistus-clay, mixtures of quartz, feldspar, and mica, with argillaceous schistus in all its varieties. On the western side are a number of basaltic columns on a bed of basalt, or chert; and large coarse crystals, cubic prisms, and various mineral bodies are found in the fissions. In the felsische rocks are several slate quarries; and great quantities of slates are cut, and annually sent hence to London, Dublin, &c. Many rare and curious plants are found on these mountains, and on the borders of the lakes. The whole of the country was formerly known by the name of Snowdon, and a great part of it is still distinguished by the appellation of Snowdonia. The mountains between Conway and Caernarvon form a beautiful scene, and are seen to rife, range after range, in three gradations. The lower valleys and basins are generally very fertile and temperate, and consequently are chosen as the scenes of habitation and cultivation. The second range affords some pasture and fuel, such as long grass, peat, and flax. The highest ridge is nearly diversified with vegetation, and partsakes of the temperature of the frigid zone. Snow remains here nearly three quarters of the year; and is often found at the latter end of June.

The scenery of Caernarvonshire is peculiarly grand, romantic, and picturesque. Its narrow glens, expanded lakes, roaring cascades, and "temple-torn rocks," confirme it to render it eminently attractive to the painter, whilst its mineralogical and botanical productions are equally enticing to the mineralogist and to the botanist. For further particulars relating to the history and antiquities of particular places in this...
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this county, see under the heads Bangor, Conway, Caernarvon, &c. This county returns two members to parliament. It is in the diocese of Bangor, and province of Canterbury. Kay’s “View of the Agriculture of North Wales.” A Sketch of the History of Caernarvonshire. Evans’s Tour through North Wales. Aikin’s Journal of a Tour through North Wales.

CAERSWS, at present a small hamlet, situated on the Severn, above New Town, in Montgomeryshire, North Wales, but formerly a town of considerable antiquity, and probably a Roman station, as is inferred from the fine hewn stones for building, and several bricks common in Roman cities or places policed by the Romans when in Britain. It had also a castle and a church, and the form of three camps is still indiscernible in its vicinity. The Roman road, or caufeway, called Sam-sws, runs here towards Meifod, and may be traced to the banks of the Towy, near Llŷn.

CÆRULATA, in Entomology, a species of Phalaena, (Gometra) with obscurely green wings, banded with brown, and two caruncles bands. Fabricius.

CÆRULEA, a species of Chrysomela, of a blue colour with violaceous thorax. Geoffroy. Inhabits France.

CÆRULUS, a species of Neodyolus, ceruleous, with the hinder thighs elevated and arched. Fabricius.

CÆRULUS, in a species of Cicindela, of a shining blue colour, with the mouth white. Inhabitats the great sandy deserts of Siberia. Pallas.

CÆRULUS, a species of Pinelgia, (Sepidium), cerulecent, with a roundish thorax, and fibrated extremit. Fabricius.

CÆRULUS, in Ichthyology, a species of Coryphaena, wholly ceruleous. Bloch. Found in the American ocean, clothed with large scales, compressed, and above convex. CÆRULUS, in Ornithology, a species of Ardea, called by Latham the blue heron, and blue bittern of Catesby. The back of the head is crested; colour of the body blue. Brifon calls it cancerphagus carulatus. It is the black and blue gauding of Ray and Sloane.

There are several distinct varieties of this bird, one of which is blue, with the head and collar, and a rufous brown colour; and another has the blue of the body tinged with green, and with the chin and throat white. Inhabitats America.

CÆRULUS, the species of Alcedo called by Latham the white-collared kings-fisher; ipida indica torquetta of Brifon. This bird is of a blue colour, beneath rufous, with the eye-brows and collar white. Length seven inches. Inhabitats India.

CÆRULUS, a species of Procellaria, blueish cinereous, beneath white, with the beck and legs ceruleous; the blue petrel of Latham.

CÆRULUS, a beautiful bird of the Certhia, or crecker, genus from Cayenne. The prevailing colour of the plumage is blue, with the bird across the eyes, chin, wings, and tail, black. Gmelin, &c.

CÆRULUS, a species of Columbus, blue pigeon of Latham, and the tachapiti of Ray. Found in New Spain.

CÆRULUS, the species of Muscicapus, called by Latham the azure fly-catcher, ceruleous; with a black spot on the escutent and break; the abdomen and vent bluish-white, and the feathers of the wings and tail bluish-black. Found in the Philippine Isles.

CÆRULUS, in Zoology, a species of Nereis, smooth and cerulecent. Fabricius.

CÆRULEOCEPHALUS, a species of Bombyx, common in various parts of Europe, and in England known by the trivial name of the figure-of-eight moth. The wings are greyish, varied with brown, with a large double irregular whitish spot. Linnaeus. &c. The larva feeds on apple and on other fruit trees.

CÆRULEOCEPHALUS, in Ornithology, a species of Alcedo, or kings-fisher, found in the island of Madagascar. The prevailing colour is blue above, beneath rufous; throat white; quill-feathers blackish.

The length of this bird is four inches, and it has the bill and legs of a red colour. Buffon calls it martin-pêcheur à tête bleue, and petit martins-pêcheur du Sénégal. It is the blue headed kings-fisher of Latham.

CÆRULEOCEPHALUS, in Entomology, a species of Certhia, violet coloured, with the thorax and eyestrolaceous. Found in Saxony.

CÆRULEOCEPHALUS, in Ornithology, a species of Psittacus, ceruleus, with the belly, rump, and tail green, crown yellow, and feathers of the wings and tail red; the red and blue parrot of Willughby and Latham. Found in Guinea.

CÆRULESCENS, in Entomology, a species of Cancer, abundant in the seas between the tropics. The colour is bluish; thorax smooth; half advanced, solubile, and furnished with two teeth. Fabricius. A crab of a small size.—Also, a species of Cryptoccephalus (Cithala), black, with the fibrated extremit cerulecent. Found in Barbary.

CÆRULESCENS, a species of Cerambyx (Saperda) that inhabitats Germany. The thorax is unarmed, cylindrical, white-blue; three lines on the thorax and ventral pale. Scopoli Schranck, &c.

CÆRULESCENS, a species of Chrysomela (Altius) of a greenish blue colour, and very glossy; thorax smooth; antence and legs rufous; posterior thighs black. Deguer.

CÆRULESCENS, a species of Carabus, of a blackish blue colour, with the bafe of the antennae red. Fabricius. Inhabitats Europe.

CÆRULESCENS, a species of Nereidus, with a roundish thorax, and ceruleous sub-opaque body. Fabr.

CÆRULESCENS, in Ornithology, a species of Anas, called by Latham and other English writers the Blue-winged Geese. This kind inhabitats North America; the colour is fulvous, beneath white; wing-coverts and posterior part of the back bluish. Brifon calls it anser fowlis irinti Hudsonus; Buffon, l’oise des Esquimaux. Obs. The bill and legs are red; crown yellowish, red of the head, with the collar, white; shoulders and tail waved with white and grey.

CÆRULESCENS, a species of Rallus, light-red, beneath bluish, the neck white, and legs red, the vent white, with black transverse stripes on the abdomen and tail. The blue-necked rail of Latham. Found at the Cape of Good Hope.

CÆRULESCENS, in Zoology, a species of Coluber, found in South America and India, smooth, cerulecent, and an acuminated head-coloured head.

CÆRULEUS, in Entomology, a species of Cicnex, described by Linnæus in his Fauna Svecica as being entirely of a blue colour and without spots.

CÆRULEUS, an European species of Carabus, described by Muller. The colour is black, with cyanous wing-cases; anteceint, feelers, and legs fulvous.

CÆRULEUS, a species of Rhinomacer, cerulecent, with the bafe of the antennae and legs yellow.

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Ceruleus, a species of Scauraleus, oblong and wholly cyanous. Found in Siberia.

Ceruleus, a species of Cuculhus, black, with a fulcated thorax, fluted ceruleous elytra, and red abdomen. Fabr. Found in Germany.—Also, a species of Cryptochalinus, azure, with brown antennæ. Found in the equatorial part of Africa.

Ceruleus, in Ornithology, a species of Cerculus, with a roundish tail and blue body. The beak, legs, and claws, are black; the remiges and tail are green and violet. Found in Madagascar. This is the blue cuckow of Latham, and tailon of Buffon.

Ceruleus, the name of a small species of Parus, called in England the blue-titmouse. The quill-feathers of this bird are bluish; primaries whithit at the outer margin; front white; crown blue. Linn. Fn. Suec.

This kind inhabits Europe. Its length is about four inches, frequents gardens, and does considerable damage by bruizing the young buds in quid of insects, on which it feeds.

Ceruleus, a species of Oriolhus, black or cyanous, with the head, wings, and tail cyanous. This is the Xanthomus ceruleus of Brifton, the small blue jay of Ray, and blue oriole of Latham. The beak is red.

Ceruleus, a species of Ramphastos, ceruleous with a mixture of cinerous; the blue toucan of Latham; found in New Spain.

Ceruleus, in Zoology, a species of Coluber, found in America, ceruleofen, with the scales white on one side, and beneath white.

Ceruleus is also a name given by Soimius to the "great Indian worm," described by Pliny and others as inhabiting the Ganges. It is conceived with much probability that all the accounts we have of this monstrous animal are only false descriptions of the crocodile.

Caerwent, in Geography, a village of Monmouthshire, England, about 4 miles from Chepilow, in the road to Newport, was a place of great importance in the Roman times, and is distinguished in the Itinerary of Antoninus by the name of Venta Silurum. This station was found, like many Roman military works, with a fortification, assuming in ground plan the parallelogramme shape, with the corners a little rounded. Such figures were called terrae castra. Each corner nearly corresponded with the four cardinal points. At the southernmost side are three pentagonal bastions; from which circumference some writers have inferred that the town was founded under the lower empire, as flanking projections were not in use before that period. Other authors refer the building of the walls to the Saxons, but from the mode of constructing them, the size and quality of the bricks, and other evidences, this seems very improbable. The circuit of the rampart, nearly a mile in extent, may still be traced, and in most places is surrounded by a deep fosse. The present walls are about nine feet in thickness at the top, and twelve feet at the base. The enclosed area is laid out in fields, and orchards; and a few cottages, with the church, parsonage, &c., occupy the site of Roman mansions and Roman temples.

Foundations of these, projecting above the level, and concealed under green hillocks, rise in many places, and columns, tessellated pavements, and coins, are continually discovered in ploughing and digging. A curious tessellated pavement was discovered about 40 years ago, and preferred under a shed constructed for that purpose. It is seven yards long and six broad, within a border of variegated stones; it contains three rows of three circular and spiral figures, not unlike those in many of our Turkey carpets, but formed of tessals of various colours, neatly put together. Some have supposed, that the exploits of Arthur were performed at this place; and that when this was totally destroyed, they were transferred through ignorance or flattery to the other Caerwent or Winchelsea, at a time when it was one of the most important cities of the island. Venta Silurum, afterwards Caer Gwent, is supposed to have possessed sufficient confluence to give name to the county of Monmouth, and those parts of Herefordshire and Gloucestershire, which long retained the appellation of Gwent-Land. In a MS. of Llandaff, Caer-Gwent is mentioned as a place dedicated to learning, and far famed for its academy, which a disciple of St. Germanus governed with great commendation. Evans's Tour through South Wales, Svo. 1804. Barber's Tour throughout South Wales, Svo. 1823.

Caerwent, or Caer-Gwent, q. d. white city, is also a name given by the first Celtic settlers in South Britain to the present city of Wincnchester, on account of the chalky cliffs that encompassed it. Under this appellation it has been recognized by the most ancient writers, domestic and foreign, who have recorded the early state of Britain. It was then no more than a collection of long cabins, built of mud, covered with reed and sheltered by the large spreading bows of the contiguous forest, and surrounded with a rampart and ditch for protection from the assaults of neighbouring tribes. The adjoining fields were devoted to the fattening of flocks and herds, on the flesh and milk of which the inhabitants subsisted, before they were acquainted with the luxury of bread, and whilst they were more the labours of tillage. It was afterwards occupied by the Belgae, who practised agriculture, and reared corn for the purpose of making both bread and beer, made cheese of their milk, and wore manufactured clothing instead of the raw hides with which their predecessors were covered. When they took possession of it, it was called "Venta Belgerrn." In 516, it was taken and almost totally demolished by Cerdic the Saxon commander; and afterwards denominated "Wintancafter," or Winchelsea, which name expresses its former importance as a Roman station. Miller's Hist. of Winchelsea, vol. i. p. 6. See Winchester.

Caerwys, a small town of Flintshire, North Wales, appears to have been a Roman station, and also a place of judicature, or the ciliiedfodd of the ancient Britons. The town now consists of four spacious streets, crossing each other at right angles. Several Roman coins, and an inhabited stone have been found here. In the vicinity of the town are many tumuli; but Caerwys is principally celebrated for its ciliiedfodd, where the feilions of bards and minstrels were held for many centuries. Judges were appointed, and bards of acknowledged merit, and minstrels, were admitted as competitors for the prize of fame. The judges were nominated by a commissión from the provincial prince, till after the conquest of Wales by Edward I., when the English monarchs sanctioned this ciliiedfodd, as an institution calculated to soften the manners of a fierce and warlike people. Previous to this, we find that Gwylffa ap Cynon, contemporary with king John, enabled that no person should follow the profession of a bard, or minstrel, who was not regularly admitted by the ciliiedfodd, which was alternately held at the three royal residences, of Caerwys, Aberfranw, and Mathravel. In 1568, a commissión was granted by queen Elizabeth, for holding an ciliiedfodd at this place, when 55 degrees were conferred on the most eminent candidates; 27 in vocal, and 28 in instrumental music. From this period the ciliiedfodd was neglected, till 1798, when a meeting was assembled by a public notice from
from the Gwneddigion, or Voudton Society instituted in London for the encouragement of Welsh literature. On this occasion the town hall was prepared for the reception of a numerous and respectable company. Twenty bards, eighteen vocal performers, and twelve harpers, assembled here, and each exhibited specimens of his respective profiiion and talents. The present town consists of 162 houses, contains 773 inhabitants, has a small weekly market on Tuesday, and is 212 miles N. W. from London. Evans's "Cambrian Itinerary," Svo 18.02.


Gen. Ch. Cal. perianth of one leaf with five divisions; tube short; segments oblong, deciduous, the lowest longer than the red, lightly vauloted. Cor. petals five, inserted into the throat of the calyx, tube, unequal. Stam. filaments ten or five, inserted into the throat of the calyx, thread-shaped, woolly or hairy at the base, declining; anthers oblong, dehisc. Pet. germ superior, linear-oblong, compressed, attenuated at the base; style thread-shaped, stigma blunt. Pr. legume oblong, compressed, one or two, or many-celled. Seeds rather egg-shaped, compressed, flat.

Ell. Ch. Calyx with five divisions; the lowest segment longer and lightly vauloted. Stamens woolly or hairy at the base. Petals five. Legume compressed.

Obi. These characters are so drawn up as to include Tournefort's Poinciana which has been admitted as a separate genus by Linnaeus, Julieron, Ventenat, Gartner, La Marec, Boile, and Poiret, the successor of La Marec in the botanical part of Encyc. Methodique; but as, according to La Marec, Poinciana differs from Cæsalpinia chiefly in the great length of its stamen, and the deep divisions of its calyx, the two genera have been incorporated by prof. Martyn and Willdenow.

Sp. 1. C. brasiliensis, Brasil-wood or brasiletto. Linn. Sp. 293. Willd. Brown Jam. 227. *STEM and leaves without prickles.* Linn. *Without prickles; leaflets ovate-oblong; racis pubescent; calyx downy; stamens shorter than the corolla.* Swartz. Observ. 166. This is said by Linnaeus and Miller to be the tree which furnishes the Brasil-wood, so well known in commerce and the arts. But La Marec, who has entirely omitted this species, affirms that the true Brasil-wood is the next species which does not occur in any of the works of Linnaeus; and it is worthy of notice that Mr. Miller, in direct opposition to the specific character of Linnaeus, describes his C. brasiliensis as armed with recurved prickles, corresponding with the descriptions of the Brasil-wood given by the older botanists, all of which are quoted by La Marec as synonyms of his C. echinata. The synonym of Brown is however an original authority for the existence of a species without prickles; and on this account we have followed Willdenow in admitting the brasiliensis of Linnaeus as well as the echinata of La Marec.

2. C. echinata, La Marec, Willdenow. Pfeuf.-fantalan rubrum, five Arbor Brasilia; Bauh. Pn. 393. Rau Hilt. 1726. Acacia Gloriosa Spina armata, cujos Lignum Brasilia dictum Tinctoria; Pluk. A. n. 5. Ibeta Pitanga, Marg. Pidorn. *STEM and branches prickly; leaflets egg-shaped, obtuse; legumen echinated.* A large tree. Branches long and spreading. Leaves alternate, twice-winged; leaflets resembling the leaves of box. Flowers in simple racemes, variegated with yellow and red, sweet-scented. Legumes dark-brown, oblong, compressed, becket with small points. Seeds reddish brown, smooth. The interior wood is of a red colour, and is covered with so thick an albumen, that it is not a tree only a very small part is fit for the use of the dyer. It cannot be used without alum and tannar, and produces only a fugitive colour. Boiled in beer, wine, or vinegar, with the addition of alum, it makes a red ink. By the means of acids it becomes a kind of carbamine; and, with different modes of treatment, is the basis of various pigments. It takes a good polish, is very hard and dry, cracks in the fire, and burns with very little smoke. A native of Fernambucb and other parts of Brazil. 3. C. bahamensis, La Marec. (Pseudo-fantalan crucorum, Sloane, Jam. Hill. 2. p. 184. Cereb. Car. 2. p. 51. t. 51.) *Branches prickly; leaflets inversely egg-shaped, emarginate; flowers white.* A shrub or small tree. Branches and common petals armed with short, scarted prickles, which are turned upwards. Leaves two-winged; leaflets smooth on both sides; pale beneath, and of a delicate green above; having, at their base, and at the base of each pinna, from two to four small, haffl prickles. Flowers whitish, in haffl racemes. Legumes oblong, pointed, peduncled, compressed. Seeds small, roundish. La Marec observes, that on account of the prickly branches, it cannot be referred to the bafliends of Linnaeus, under which that author quotes the synonyms of Sloane and Cateley. A native of Bahama and Jamaica, whence it is brought to Europe for the use of the dyer. Large quantities of it were formerly cut down in some of the Bahama islands, but it is now nearly extinguished.

4. C. secfaria, Linn. (Colensoa Vesce-cruoe, Pluk. tab. 185. Senna species Fabaceae odor, Sloan. Jam. Hilt. 2. p. 59. t. 181. f. 2, 3. Rai. den. iii. No. 18.) *STEM prickly; leaves inversely egg-shaped; racemes spinose, flowers yellow.* La Marec. *Leaves inversely heart-shaped, roundish.* Linn. A tree. Stem about fifteen feet high, nearly the thickness of a man's thigh, rather crooked, covered with an even, whitish bark. Branches crooked, prickly. Leaves alternate, twice-winged; leaflets obtuse, a little emarginate, those at the summit of the wing a little larger than the red; with a few hooked prickles at the base of each pair of leaflets, and each pair of wings. Flowers yellow in several distinct spikes. Legumes oval, nearly obtuse, blackish, furrowed. Seeds two or three. La Marec. Legumes without valves, nearly filled with a spungy substance; two celled, with a single seed in each cell. Gartner. 442. tab. 144. Ob. Prof. Poiret and Wilkenhow quote Poinciana biijuga of Linnaeus, as a synonym of this species, and suppose that it has inadvertently been described twice, under different names, and placed in different genera. Poiret, who retains the genus Poinciana, though, as he himself acknowledges, without sufficient reason, takes no notice of bijuga, and therefore seems to be of the same opinion; but in that case he ought to have noticed the omission, as his predecessor La Marec, when he wrote the article Cæsalpinia vesicaria, had certainly no idea that the Poinciana bijuga is the same plant. Martyn and Wilkenhow prefer the trivial name bijuga, and give the following specific character, "Prickly; leaves doubly pinnate with two pairs of obcordate leaflets; they and the calyx smooth; stamens equaling the corolla." A native of the West Indies. 5. C. crista, Linn. Sp. Pl. C. polyphilla aculeis horrida, Plum. gen. 26. t. 68. "Prickly; leaflets oval; racemes simple; calyx smooth; petals egg-shaped, shorter than the calyx; stamens longer than the calyx.* A small tree, or rather shrub, about four feet high. Bark rather thick, ash-coloured, without red within. Wood solid, heavy, easily cleft, of a red colour, with a white alburnum. Trunk divided near its summit into several branches, nearly the fire of a man's arm; and armed with
with numerous, scattered, short, hooked, strong, blackish prickles, each situated on a tubercle. Leaves alternate; leaflets smooth, of a pleasant green colour. Flowers pale green or whitish, with only five filaments, in upright racemes forming a pyramid. La Marck, from Plimer's MSS. A native of the Antilles, where it is called braulietto, from the resemblance of its wood to that of brazil. 6. C. lapponum. Linn. Sp. Pl. Reud. Corom. t. 17. p. 16. Gen. tab. 144. f. 1. La Marck Illust. PI. 335. fig. 1. (Ligustro brasiliense fimbriata, Bauh. Piae. 353.) Rau. Hlb. 1737. Lignum Sappan, Rhumph. Amb. 4. p. 56. t. 21. Thian pungam, Rheed. Mal. 6. p. 3. t. 2.) "Prickly; leaflets oblong, not equilateral, obtuse, a little emarginate."

A small tree. Trunk from ten to fifteen feet high. Leaves large, twice-winged; pinnules from twelve to fifteen; leaflets numerous, crowded, smooth, finely fringed, obliquely truncate at the base. Flowers yellow, sweet-scented, in racemes. Legumes somewhat woody, thick, short, somewhat rhomboidal, beaked, and one-celled, two-valved. Seeds about four, large, ovate-oblong, smooth. A native of the East Indies, Sumatra, the Molucca Islands, and Japan. Its wood is used for cabinet work; and, being very durable in sea water, is excellent for trellis in ship-building; when boiled in water, it yields a blackish colour, which, with the addition of alum, becomes red, and is much used for dyeing woollens and cottons of a beautiful red colour. 6. C. mimifoliae. Willd. La Marck. PI. 335. f. 2. (Kal-tod-da-wadi, Rheed. Mal. 6. p. 75. t. 8. Simolo malabarica, Rau. Hlb. 1740.) "Stem, pelticles, and peduncles pricky; leaflets, oblong, obtuse, small; legumes woody."


A shrub about twelve feet high, with a grey, smooth bark. Branches spreading, armed at each knot with two short, strong, crooked spines. Leaves alternate, twice-winged; leaflets from five to ten pairs, a little narrowed at the base, smaller on the upper leaves; cimitting, when bruised, a strong odour like fawin; with one gland at the base, and another on the upper part of the common petiole, and two small sharp joints a little above the base of the partial petiole. Flowers in a terminal, loose corymb, sometimes approaching to an umbel; on simple, smooth peduncles, two or three inches long; leaves of the calyx egg-shaped, concave, deciduous; petals beautifully variegated with red and yellow; legumes at least three times as long as the petals. Legume oblong, compressed, coriaceous, many-celled, two-valved; partitions rather thick, composed of rigid bristles, thickly matted together. Seeds one in each cell, ovate-quadrangular, thick, flat on both sides, smooth, a little polished, of a chestnut colour. A native of the East and West Indies. In Barbadoes it is planted in hedges, and makes a beautiful fence. In Jamaica its leaves are used as a purgative, instead of senna. All its parts are thought to be powerful emmenagogue, and are frequently used for that purpose by the negroes. Its wood is said to afford a good dye. 8. C. elata. Willd. (Poinciana elata, Linn. Sp. Pl. Forskal Flor. Aegypt. 86.) "Unarmed; leaflets linear, obtuse with a point; corollae compound; calyxes coriaceous, downy; petals fringed; legumes very long."

A shrub or small tree. Branches pubescent. Leaves alternate, twice-winged; leaflets in about twenty pairs, minute, almost smooth. Flowers in terminal corymbs, on short, fimbly, alternate peduncles; leaves of the calyx united at their base, lanceolate, pubescent, a little reflexed. Legume almost smooth, often divided between the seeds, sharp at each end. A native of the East Indies. 9. C. coriaria. Willd. (Poinciana coriaria, Jacq. Amer. 175. t. 175. f. 126. Siqueira arborea Guatapame, Breyn. Cent. p. 58. f. 5.) "Unarmed; leaflets linear, obtuse; racemes panicle; calyces filiform; legumes twice as long as the corolla."

A shrub from twelve to fifteen feet high, much branched, with dark-coloured spotted bark. Leaves alternate, twice-winged; leaflets small, smooth, about three lines long. Flowers small, yellow, in a terminal, close, spike-like raceme, on short, fimbly, peduncles, with little smel. Legume elongated, obtuse, short, a little bent, spiny. A native of Curaçoa and Carpathagna; in falt marshes. The Spaniards and natives use the ripe pods for tanning leather, and call them liobilhi.

Propagation and Culture. As all the species are natives of warm climates, they are cultivated in Europe only as ornamental plants; and though none of them have hitherto flowered in our floros, the elegance of their foliage, and the singularity of their habit, give them a distinguished place in collections of exotic plants. They can be raised only from seeds sent from the pod from their native country, and afterwards sown in water till they are swollen, and their envelope a little softened; but if kept dry, will preserve their vegetative power several years. The seeds, when taken from the water, must be sown in pots filled with a mixture of common mould and bog-earth, in nearly equal proportions, and plunged into a hot bed of tanner's bark, kept at a moderate warmth. The plants, if sown at the end of March or beginning of April, will appear in the course of May or June, and when they are three or four inches high, should be transplanted singly into separate pots, with a larger proportion of good mould. In autumn they must be removed from the hot-bed into the floros, and during the first winter must be carefully preserved from cold, humidity, and insects, and furnished with fresh air in the day-time, when the weather is favourable. They succeed better in a light, than a strong argillaceous earth.

CESALPINIA, PI. Zeyl. 157. See Guailandia Bondou. CESALPINOIDES. See Gleditschia Triaenanthus. CESALPINUS, ANDREW, in Biography, born at Arcizo in Tuscany, in the early part of the 16th century, was educated under Luke Ghinas, director of the public garden at Pisa, whence he appears to have taken his taste for botany, which he cultivated with affidity and success. But he became still more eminent for his skill in anatomy and medicine, and for his intimate acquaintance with the works of Aristotle, whose philosophy he explained and defended, in his "Quelionimus Peripateticum Libri Quinque," against the doctrines of Galen, then generally followed. This was published at Venice in 1574, 40. After taking his degree of doctor, he was made professor in medicine and anatomy in the university at Pisa, and continued in that office several years, until invited to Rome, and made first physician and archiater to pope Clement VIII. He died at Rome, aged 81 years, in 1603. His works are numerous, and give equal proofs of genius and learning.
\textit{\textbf{Cæsar.}}

\textit{De Plantis Libri xvi,"} Florent. 1583, 4to. He compares the seeds of plants to the eggs of animals; the feed serving, he says, to defend and nourish the germ until it has taken root in the earth. He also formed a system of arrangement, dividing the plants into classes, from the fructification; but as there are no engravings, or delineations of the plants, and he only gave the trivial names, the work is of little value at this time. He left a hortus focus of 750 plants, which is said to be now in being. His speculations in anatomy are still more ingenious. He describes very clearly the circulation of the blood through the heart, and was acquainted with the uses of the valves. Douglas thinks him entitled to equal praise with Harvey, who only completed what he had nearly achieved. He clearly, Douglas says, describes the contraction and dilatation of the heart, which is shown from the following passage from his fourth book, \textit{Quelitium Peripateticum.} \textit{\textit{Valorum in cor definitum quidem intromittuntur contusam in hisp sublalantiam, ut venta cava in dextro ventriculo, et arteria venalis in sinistro; quadem educat, ut arteria aorta in sinistro ventriculo, et vena arterialis in dextro; omnibus autem membranulis sunt apposite et officio delegat ut ofecta intromissionem non educant et educuant non intromittant. Continget corde contrahente, fec arterias dilatari, et dilatante constringi; dom enim dilatatur cor, claudi vult orificia educentium, ut ex corde non influit tunc sublantia in arterias, contrahente autem fe, influent dehiscientibus membranis.} \textit{The pulse, he thinks, depends on an effervescence of the blood in the heart. His works on the practice of medicine have also their portion of merit. \textit{Quelitium Medicarum Libri ii,"} \textit{De Facultatibus Medicamentorum Libri duo,"} Venet. 1593, 4to. Bleeding can only be advantageously used in the beginning of fever. In putrid fever the cure is to commence with clearing the bowels and bowels. \textit{Speculum Artis Medicæ Hippocratis, exhibens diversissimēs curandos morbos, in quo multa videtur, qua praecelerissimē medicis intacta relicta erant,"} Lion. 1601-2-3, 3 vol. 8vo. treating of the Materia Medica, fevers, lues venerea, &c. in which he advances very much extols the use of guiaum. Douglas. Bibl. Anat. Specimen. Haller. Bibl. Bot. Med. et Anat.

\textit{Cæsar, in Roman Antiquity, was a long time used for the heir intended, or preeminent of the empire; as king of the Romans is now used for that of the German empire.\textit{Cæsar, Cæsarius, or Cæsarian, in Galenic medicine, is a pusulent ulcer on the abdomen, commonly called a strangury.}}

The Cæsars were a kind of adjuncts or associates of the empire, participes imperii. They wore the imperial mantle, purple, and diadem, and walked with other marks of the sovereign dignity: they were created, like the emperors, by putting on the purple robe. The dignity of Cæsar remained the second of the empire, till Alexius Comnenus made Nicephorus Mellituris Cæsar by conquest, and it being necessary to confer some higher dignity on his own brother Isacius, he created him Sebablotector, with the precedence over Mellituris, ordering that in all acclamations, &c. Isacius Sebablotector should be named the second, and Mellituris Cæsar the third.

The title took its rise from the cognomen, or surname of the first emperor, C. Julius Cæsar, which, by a decree of the senate, all the succeeding emperors were to bear. Under his successor, the appellation Augustus being appropriated to the emperors, in compliment to that prince, the title Cæsar was given to the second person in the empire, though it still continued also to be given to the first, and hence the difference between Cæsar used simply, and Cæsar with the addition of Imperator Augustus. Athors are divided as to the origin of the word Cæsar, the cognomen of the Gems Julia. The more common opinion is, that the word Cæsar comes à cæsà natriis utero; because his mother's womb was cut open to give him birth.

If this opinion be true, the name must have survived the operation; for we are told by Tacitus (Dialog. de Orat. 28.) that the took care of his education, and by Suetonius (in Cæs. c 26.), that she died when her son was in the war against the Gauls. It is also known that she was alive when he was married to Pompeia. It has been alleged, however, that the words of Pliny (H. N. lib. vii. c. 9.), upon which this opinion is founded, have been erroneously applied to Cæsar the Dictator; whereas he meant only to express, that the first person who was surnamed Cæsar had derived his name from this circumstance.

Some pretend that the laurel crown on medals is never given to Cæsars, but only to Augusti; which is overthrown by a medallion of Maximus: not to mention another medal of the lower empire, wherein Cæsarius Cæsar is crowned with laurel. See August.

Card. Norris observes, that the years of the Cæsars were frequently marked on their medals; of which we have inferences on the medals of Conflantinus, Chlorus, and divers others, whose years are expressed on their coins, though they were never more than Cæsars. Cæsar, Caius Julius, in Biography, the dictator of Rome and founder of its imperial constitution, was a descendant of the Julian family, which boasted its derivation from Venus by Æneas, the son of Anchises, to whom fabulous history ascribes the origin of the Roman state. See Æneas. From the 10th year of the second Punic war, A. u. C. 546, till the time of Cæsarius Julius Cæsar, the emperor's father, some of the family of the Cæsars enjoyed public offices in the commonwealth. The father of Cæsar died suddenly in early life, after having occupied the station of pretor; his mother's name was Aurelia; and his aunt Julia was the wife of the celebrated Cæsarius Marius. He was born at Rome, on the 12th day of the month Quintilis, afterwards called July, A. u. C. 654, B. C. 100; and though he lost his father in his 16th year, his connections were such as to favour his introduction into life in a manner suitable to his talents. In his youth he was betrothed to Coussia, a rich heiress; but in his 17th year he broke this engagement, and married Cornelia, the daughter of L. Cornelius Cinna; and at this time he was invested with the dignity of flamén dialis. When Sylla succeeded in overthowing the Marian party, to which Cæsar owed his advancement, he was urged by this powerful dictator to divorce the daughter of his enemy; but Cæsar, refiling the injunction, was deprived of the pricily office, as well as of his own patrimony and his wife's portion, and subjected to a decree of proscription. This decree, however, was afterwards reversed, by the intercession of the Veital virgins and some distinguished persons of his own family; although in granting their petition Sylla admonished them, that they would repent of their interference, as he foresaw in Cæsar many Mariuses. Cæsar, alarmed at his jealousy, retired from Rome, and after a short interval withdrew to the court of Nicomedes, king of Bithynia, where his conduct gave occasion to some furpicious of an infamous nature. At the siege of Mytilene, in which he was employed by Thermus, who was at this time pretor of Asia, he distinguished himself by his military valour, and obtained from his general the honourable recompence of a civic crown. Having served for a short time in Cilicia, under Servilus Iauroicus, the death of Sylla made way for his return to Rome; where, declining to concur in the ambitious designs of Lepidus, he devoted himself to the study and practice of eloquence. The mal-administration of Dolabella,
Cæsar, who had been praetor of Macedon, and who had been
honoured with the confulate and a triumph, afforded him an
opportunity of gaining distinguished reputation among the
principal orators of his age, although the defeat of Brutus and
Cotta, the two most celebrated pleaders of Rome, pre-
vented his success. As at this time he does not seem to
have formed, or at least to have matured, those ambitious
defijns which led him to prefer the career of war and poli-
tics to that of an orator, he embarked for Rhodes, with
the view of gaining improvement in the art of eloquence from
the instructions of Appolionus Molon, one of the most emi-
nent rhetoricians of that period. In his passage thither, he
was captured by some pirates who infected those fears; and
during his confinement he exhibited those peculiar and extra-
ordinary talents, which were afterwards exemplified in the
progress of his life. His captors demanded 23 talents for
his ransom, but he informed them that they were not duly
apprized of the importance of their prisoner, and engaged
to pay them 500; and whilst his domestics were deputed to
raise the stipulated sum in the neighbouring cities, he re-
mained in culidy, accompanied only by one friend and two
attendants, and amused himself with reciting to his barbarous
auditors, whom he treated with contempt, some orations and
verses which he composed for the occasion; and often,
between jest and earnest, threatened them with future tokens
of his displeasure, if they disturbed his repose. Having been
furnished with the promised ransom by the inhabitants of
Mikthus, he obtained his liberty, and in that city fitted out
some ships, with which he purposed and captured the pirates;
and, having conveyed them to Pergamus, he there inflicted
upon them the punishment of crucifixion, with which he had
threatened them. He then proceeded to Rhodes, and pur-
 sued his studies.
During his residence in this city, he took
occasion to pass over to the continent, and though he had
no commission, to raise troops, and with this force to check
the progress of Mithridates, who was making depredations
on the provinces in alliance with the Romans, and to pre-
serve those cities, which were ready to revolt, ready in their
allegiance. At this time he was only 24 years of age, and
yet conducted this expedition with a prudence and bravery
which would have done honour to the veterans in military
service. On his return to Rome, the chief object of his
policy was to ingratiate himself with the people, and thus
to secure his advancement to those public offices, which would
serve him in the accomplishment of the purposes of his
ambition. Accordingly he concurred with Cicero in promoting
the Manilian law, and in thus securing the favour of Pome-
py. In the several offices of tribune, quaestor, and senate,
he contrived by his general conduct, and by his unbounded
liberality, to attach to himself the affections of the people.
He testified his respect in a variety of instances to the Ma-
rian party, although by so doing he incurred the censure of
the Aristocracy, who charged him with meditating designs
against the government. He also obtained the confulate for
L. Julius Cæsar, one of his own family, who, together with
his colleague C. Marcus Fufinus, under Cæsar’s direction
and influence, condemned many of the partisans of Sylla
either to banishment or to death. Cicatine, however, was
spared; and Cæsar is even suspected to have concurred in
his conspiracy. When this conspiracy was suppressed, and
the Senate deliberated on the punishment to be inflicted on
those who were concerned in it, he delivered an artful speech
in praise of Clemens, and his oration, which is still extant,
and which, as a composition, has been much admired, made
an impression on the assembly, which the severe eloquence
of Cato was hardly sufficient to counteract. Cæsar gave a
single vote against the death of the conspirators; and his in-
terference in their favour excited such indignation that he
escaped with his life by the seconable interpolation of Cæ-
corn, whose testimony contributed to his justification, not-
withstanding the charges alleged against him of his concern
in the plot. During the progress of this contest, Cæsar in-
dulged in the licentious gratifications of intemperance and
gallantry; and Servilia, the sister of Cato, avowed her pas-
tionate attachment to him, and he was supposed to be the
real father of her son Marcus Brutus. See Brutus.
The success of Cæsar, in his competition for the office of chief
consul, against two of the chief personages of the republic,
served to augment the jealousy entertained of him by the
Senator party. Notwithstanding the licentiousness of his
own life, his pride would not allow him to submit to the suf-
piction of domestic dishonour; and therefore, upon the dis-
coverey of an intrigue between his wife Pompeia, whom he
had married after the death of Cornelia, and P. Clodius,
(see BOUS DEO), he instantly procured a divorce, though
he did not succeed so far as to substantiate the charge; al-
leging in vindication of his conduct, “Cæsar’s wife must
not be even suspected.” At this time he was serving the
office of praetor, upon the expiration of which he prepared
for assuming the government of Parthia, Spain, comprehen-
ding Lusitania and Bretania, which fell to his lot; but his
creditors would have prevented his succeeding to his new
province, if Cæfas had not satisfied their demands. In his
journey, he passed through a miserable village on the Alps;
and when one of his companions jealously inquired,
“whether there could be any contentions for power and dig-
nity in such a place?” Cæsar, in token of his ruling passion,
replied, “I protest that I had rather be the first man here,
than the second in Rome.” His ravenous disposition, like
that of other Roman governors, was manifestly on some oc-
casions no less signal than his ambition. He considered
his government as affording the opportunity and means of
enriching himself: and, therefore, availing himself of pre-
texts for disputes, he marched into provinces unsubdued by
the Roman arms, for the purpose of plunder; and brought
back to Rome, in the following year, a sum sufficient for
discharging his debts, though they are said to have amounted
to 1,600,000, sterling.
Having passed through the subordinate offices of the
state, the next object of his ambition was the consulship. In
order to the attainment of this dignity, it was necessary for
him to connect himself with one of the two parties that
divided the power of the state, that of Pompey or that of
Cæfas. In this dilemma, he determined on reconciling the
two rivals; and accordingly he proposed a triumvirate,
in which the whole power of the state should be lodged,
and this was the first triumvirate established at Rome. See
Triumvirate. By this artful expedient Cæsar by means of
the interel of Pompey and Cæfas, secured his election to the
consulship, A. U. C. 654. B. C. 6o. Cato alone forewarned
the conseqiences of this alliance, and opposed the election;
claiming, that Rome had lost her liberty; but his opinion
was disregarded till it was too late to follow his prudent coun-
zel. The only advantage which he and his party obtained was
the election of Bibulus as Cæsar’s colleague; and for this pur-
pose they were under a necessity of counteracting Cæsar’s
interest in favour of another candidate, by outbidding him in
the purchase of votes. As soon as Cæsar entered upon
his office, he confirmed all the acts of Pompey, and pro-
cceeded to use all his endeavours for conciliating the af-
fections of the people. With this view he proposed an Agra-
rian law for the division of certain lands in Campania among
such of the poor citizens as had three or more children;
but the senators, though they approved the act, withheld
Cæsar.

their affent, till at length it was paffed by the people, and the senators were contrained to fignifie it by their affent; inofmuch that it was jocofely faid, that, instead of dating any tranfaition of this year in the usual mode, during the confuhip of Cæfar and Bibulus, it would be more proper to infert "the confuhip of Cæfar and Julius." This victory over the fenate and Bibulus made Cæfar absolute in Rome; and having feured both the people and knights, he governed with an uncontrollable fway.

As Cicero exclaimed againft the trimmivate, and thus provoked the remembrance of this bloody, they relented upon his ruin, and with this view they promoted Claudius to the tribunate, which proved eventually the caufe of his banifhment. The marriage of Cæfar's daughter Julia with Pompey, served to ftrengthen the connection between these two great men; and by marrying Calpurnia, daughter of L. Calpurnius Piso, the conft of the preceding year, he attached him to his caufe.

He also contrived by his influence on the fenate and people, together with the afiilance of Pompey and Crassus, to procure the government of Transalpine and Cilalpine Gaul, contrary to all law, for five years, with the command of four legions.

Having thus established his interef at Rome, Cæfar found it neceffary, in the year B. C. 58, to hale to Gaul, the province which was the fold of thofe military exploits, by which he acquired a degree of reputation and infuence, that ferved in the progres of his career to subjugate his country. The Helvetians, having abandoned their country, and burnt their towns and houfes, were preparing to enter Gaul by way of Geneva. Cæfar, therefore, by forced marches, reached the banks of the Rhine in eight days, and having refuced the Helvetians the liberty they folicited of pafing through the country of the Allobroges, prepared, by procuring fresh supplies of troops from Italy, to defend himfelf againft the effects of their refentment. Accordingly, while they were embaffaded in pafing the Arar, (now Saone,) he fell upon them and totally defeated them. Upon their again rallyng near Bibrae, the capital of the Aedu, and refuing him in his retreat, a bloody battle ensued, which terminated, notwithstanding the valour and obfificacy of the Helvetians, in their total overthrow; fo that they were obliged, after the losf of their baggage and many prisoners, to fupplicate his clemency; and to acquifle in the obligation which he impofed upon them, of laying down their arms, giving hostages, and returning to their own country. This victory was fo complete, that Cæfar received congratulations from all parts of the country, and the Aedu, in particular, implored his protection againft Ariovitus, king of the Germans, whom he drove back from the frontiers of Gaul to his own territories. Having fucceeded in this enterprise, he put his troops into winter-quarters, and corfing the Alps, returned into Cilalpine Gaul, in order to concert measures for the operations of the next year. In the mean while all the nations of Belgium confederated againft the Roman republic, and furnifhed ample employment for his military exertions in the courfe of the second year of his government. The fame of his exploits in difftolving their confedfacy, and fubduing them feparately, extended beyond the Rhine, and induced feve- ral remote nations to fend ambassadors to him, with offers of fubmiffion. Having difpatched his troops into winter-quarters, he reftored the Alps, and feft the winter in Infubria. By fuch conqueffes, Cæfar effaced the remembrance of Pompey's victories in the East, and by the prodigious sums, which he acquired in Gaul, chiefly by plundering the temples of their treasures, he increafed the number of his friends in Italy. The signal successes of this bloody campaign were honour'd at Rome with a fupplication, or religious thanksgiving of the unprecedented interval of fifteen days; and Pompey became jealous of a renown that foon became likely to eclips his own. In the third year of his administration in Gaul, Cæfar, whilst he was in Britan, a part of his province, received information that the Veneti, the ancient inhabitants of Vannes, in Britan, together with some other neighbouring nations, were making prepare- fations for war; upon which he fitted out a fefl, entailed the command of it to Brutus, who engaged that of the ene- my, and gained a complete victory. The Veneti prefembled; but Cæfar put their chief men to death, and sold the reli- for slaves. Crassus also, his lieutenant, reduced the whole of Aquitaine.

After fome other fafeful expeditions, Cæfar reffored the Alps, according to his usual custom, and refided for fome months in Cilalpine Gaul, whence he directed the operations of his party at Rome, and excited Claudius to commit atrocious acts of violence. He likewise concurred with Pompey and Crassus, who afpired to the confuliate, and ordered his agents to spare no ex pense in purchasing the fuffrages of the tribes, fo that these two chiefs were unani mously chosen. In the year B. C. 55, Cæfar renewed his military exploits in Gaul; and having driven back fome German tribes, which had corfed the Rhine with a defign of fetting in Belgium; and having pafed the Rhine, laid waile the country of the Sicambri, and fpread a general alarm through the parts adjacent, he returned into Gaul, refolving to pafs over into Britan, and to punish its inha bitants for furnifhing the Gauls with continual supplies against the Romans. Accordingly he fifted out a fefl, corfed the channel, and difperfed the natives who op- posed his landing. This expedition, however, though the fenate decreted him a fupplication of twenty days in honour of it, was merely preparatory to that of the following year, in which he collected 800 vefsels, and embarged with 5 le- gions, and 2000 horfe, which landed without opposition on the Kentifh cofalt, at the place of his former defcent. His progres was for fome time interrupted by a form which damaged his fefl, and required his drawing his forces towards the sea-coft. But having repaired his fattered ships, and properly fecured them, he put his troops again in motion, and advanced, notwithstanding the opposition with which he had to encounter, as far as Cowey, near Walton, where he corfed the Thames, although the enemy occu- pied the opposite bank, and had driven sharp flakis in the only part of the river that was fordable. The Britons fled in confternation; and Caffivelaunus, finding all his efforts of reffifance ineffectual, fubmitted to Cæfar, who conde- fended to give him peace; after having eftablifh'd a great number of hostages, and impofed a certain tribute to be an- nually paid to the Roman people. Having thus settled the affairs of Britan, he marched back to the sea-fide, where he embarked his troops and hostages, and arrived in safety at the continent. On his return to Gaul, he found the country grievously diftrifled by a famine, which obliged him to difperse his troops into different quarters for their more commodious fubfifience. The natives took this oc- cafion of attacking them in their winter flations; but Cæ- far by his fingular activity quelled the infurrection, and after the moft difficult and glorious campaign of any he had made in Gaul, paffed the winter in this country.

The death of Julia during Cæfar's expedition into Britan diffolved the alliance that had biflubed between him and Pompey, and hafened the revolution which was now ap- proaching. Pompey, however, was not thoroughly ap- prised.
prized of Caesar's designs, and dispatched to him two legions in order to recruit the hordes which he had furloughed. The two next campaigns in Gaul furnished Caesar with insufficient employment, and by completing the work which he had already begun, he reduced the whole country to the flat of a Roman province, and extirpated every spark of its independence. The war in Gaul lasted till the year B.C. 53; and it has been computed that, during his several campaigns there, Caesar took 500 cities or towns, subdued 300 nations, and destroyed by the sword a million of men; "titles sufficient to place him high on the list of conquerors!" The crisis of the Roman flate was now speedily approaching. The power of Pompey was supreme in the senate, and as Crassus was dead, and his interest was altogether detached from that of Caesar, he adopted various measures for mortifying his rival. The enemies of Caesar were advanced to the chief offices of the state; the legions that had been sent to him were withdrawn; and his request of continuing longer in his government was rejected. Caesar, however, professed the affections of the people, and, to him the queen of the state was secretly attached. With a moderation, therefore, real or affected, from which no danger could ensue, he proposed to disband his army, if Pompey adopted the same measure. But Pompey, being less feared by the constitutional party than Caesar, was supported by it in his refusal to acquiesce in any terms of accommodation. The former was continued in his government of Spain, whilst the like indulgence was refuted to the latter, who, having marched with a single legion across the Alps to Ravenna, in order to wait the event, was informed that the senate had issued a decree announcing him an enemy of the republic if he did not give up his command within a limited time. Three tribunes in Caesar's interest, who had proteted against this decree, were driven with violence out of the senate-house; and had fled to Caesar's camp in disguise of slaves, whose presence inflamed the minds of the soldiers. In the mean time the fatal decree was issued at Rome, which required the confunds, the pro-consul Pompey, and the confular magistrates, to provide for the public safety; which, in effect, was a declaration of war. It was in the year B.C. 50 that these important events took place, and that the civil war commenced. Two powerful parties were now taking up arms; both pretended to have nothing in view but the defence of their common laws and liberty; whilst their chiefs aimed only at establishing their own power on the ruins of that liberty which they affected to defend. Pompey's party had on their side the forms of the constitution; he was acknowledged as the general of the commonwealth, and the whole senate, with the confunds, followed his ensigns. On the other hand, Caesar seemed to have the more equitable cause, and the people, with their tribes, took part with him. The poet Lucan, who was of Pompey's party, without absolutely deciding the question between those two rivals, seems to give the advantage to Caesar, when he says, that Caesar, could not bear a superior, nor Pompey an equal.

"Nec quenquam jam ferre potell, Caezarve priorem, Pompeiue parent." Phars. L. 125.

Caesar, as soon as he received the hostile decree, confining in the attachment of his soldiers, resolved to begin the war. Accordingly he marched to the Rubicon, a small stream that separated Cisalpine Gaul from Italy. On the banks of this river he for some time paused and deliberated; but at length, crying out "the die is cast," threw himself into the stream. Having crossed this river, he became the avowed foe of his country; and therefore "this passage of the Rubicon" has been proverbially used to signify a desperate decision. Having seized the neighbouring town of Ariminum, he ordered his main army in Gaul to hasten to him, and augmented his forces by new recruits in Cisalpine Gaul. In his march he took possession of Corfinium, in which many senators had fought an asylum, and whilfe he triumphed in his conquest, he manifested his moderation by granting them their lives and liberty. By this well-timed act of clemency he firmed his cause almost as much as by the power of his arms. Rome was in the utmost confusion. The people and all the senators were alarmed; and determined, as they had no sufficient force with which to defend themselves, to retire to Capua. After the reduction of Corfinium, Pompey withdrew from Capua to Brundusium, whither he was followed by Caesar. From thence he withdrew, whilst his pursuer was inveterating the place and cutting it up by a mole, to Dyrrachium; and by his flight surrendered the whole of Italy to his rival. Whileh the lieutenants of Caesar were deputed to take possession of Sicily and Sardinia, Caesar himself advanced to Rome. On his approach to the city, he sent a message to the senators then in Italy, requesting their counsel in the capital, and quartered his troops in the neighbouring municipia. To the assembled senators he gave an account of his conduct and avowed his moderation and desire of compromising all differences; whilst the people crowdrd to see the famous conqueror of Gaul, and to congratulate him on his return after an absence of 10 years. With a view of providing for the necessary expenses of the war, he repaired to the temple of Saturn and seized the public treasurer; and thus supplied with money, he raised troops in every part of Italy, and sent governors into all the provinces subject to the republic. The war was now prosecuted with vigour. Caesar himself undertook the campaign in Spain, and soon subjugated the whole country; and on his return to Rome the pretor Lepidus nominated him dictator by his own authority. Having exercised this dignity with moderation, he changed it for that of consul. He then purposed Pompey into Greece, and landed with five legions in Chaonia; but the destruction of the greatest part of his fleet by the stronger squadron of Pompey, and the formidable force of his antagonist, induced him to propose terms of accommodation, which, though apparently reasonable, were disregarded. Anxious to effect a junction with that division of the army which was commanded by Antony, he made an attempt, the temerity of which has incurred censure. Dismayed like a slave he embarked on board a fisherman's bark for the purpose of crossing over into Italy; the vessel, however, after struggling with contrary winds, was obliged to return, notwithstanding the earnestness with which Caesar urged the crew to shun the dangers of the voyage. It was on this occasion that he is said to have discovered himself to the terrified maller, and to bid him disperse his fears, as "he carried Caesar and his fortune." This exploit is related by Plutarch, and poetically described by Lucan; but Caesar himself takes no notice of it in his Commentaries. Having received the expected succours of Antony, he followed Pompey to Dyrrachium, and determined to invest the town, together with Pompey's camp. In this siege his troops encountered a variety of hardships, which, however, their attachment to their leader induced them to endure with heroic patience. Pompey, reduced to the want of forage, and disdaining to be cooped up by his enemy in such a nook of land, determined to break through the barrier, and at length succumbed. Caesar, mortified by his escape, retired to Macedonia, whither Pompey followed him; and on the plains of Pharsalia the great conflict between these two commanders was decided, B.C. 48. The army of
of Pompey was totally routed: and Cæsar equally distinguished himself by his valor and conduct in the battle, and by his sagacity and clemency after the victory. He diffused the Roman virtue, who were made prisoners; and buried without permission, the latter, which were contained in Pompey's cabinet. Affirmative and active in pursuing the advantage he had thus gained, he left the plains of Pharsalia on the third day after the battle, and with his cavalry pursues Pompey. Crossing into Asia, and receiving on his passage the submission of a fragments of his forces, which fell into his hands, he entered to Rhodes, and embarked for Egypt.

At Alexandria he was informed of Pompey's murder: and the head of his rival, wrapped up in a veil, was presented to him as a token of his final successes. He turned his eyes from viewing the bloody spectacle, and reflecting on the fate of this eminent personage, once his friend and his kinsman, shed tears on the occasion: and distinguishing the messenger with expressions of displeasure, ordered the head to be buried with due solemnity. As a farther tribute of respect for his deceased rival, he set at liberty all his friends who had been taken on the inhospitable shore of Egypt, and imprisoned by order of the ministers of King Ptolemy. At Alexandria he took up his residence in the royal palace; but by exacting with rigour a sum of money, pretended to be due to the Roman people for their services in retorring to the throne Ptolemy Auletes, father of the present minor king, and also by undertaking to reconcile young Ptolemy with his elder Cleopatra, who, by the will of Auletes, was to have reigned jointly with her brother, but who had been expelled the kingdom, he exercised an authority which offended the Alexandrians. Accordingly they besieged him in his palace, and thus commenced the Alexandrian war, in which Cæsar failed to acquit himself either with prudence or justice. In this war part of the famous Alexandrian library was burnt in consequence of a conflagration of some ships of the Alexandrian fleet. Cæsar, who had possession of Ptolemy's peron, was at length so hardly pressed as to be obliged to surrender him in order to obtain a cessation of hostilities: but he was relieved by Mithridates, king of Pergamus. Ptolemy, however, continued the war, till he was defeated in two actions, and lost his life in the Nile by attempting to make his escape. In consequence of this event Cæsar settled the affairs of Egypt, by conferring the crown jointly on Cleopatra and a younger brother of Ptolemy. Fanciamed by the allurements of this enchanting woman, by whom he had a son, he remained in Egypt in a state of inactivity, till he was called away by the progres of Pharaces, son of Mithridates the Great, who was expelling the Romans from Asia Minor.

When the news of Pompey's death reached Rome, the senate and people concurred in accumulating honours and prerogatives on Cæsar, the only surviving master of the empire. He was proclaimed consul for five ensuing years, made tribune of the people, and created dictator for a whole year. Having defeated Pharaces in Asia, whom he pursued with a celerity, emphatically expressed in a laconic epistle to a friend, "Veni, vidi, vici," I came, I saw, I conquered; and settled the affairs of this province, he returned with only one legion through Greece to Rome, and by the moderation and placability which he exercised on this occasion, diffipated the fears of the vanquished party, and secured the fugitives of his usurpation without shedding one drop of blood. His views were next directed towards Africa, where the remains of Pompey's party maintained a formidable strength under Cato, Scipio, and other renowned leaders; whilst he was preparing for his expedition into this country, a mutiny broke out in his favourite tenth legion, which afforded occasion for a display of his distinguished talents as a commander. Having summoned them to the Campus Martius, with no other means besides their swords, he required them to file the grounds of their complaints. After some pause, occasioned by the awe of his presence, they began mutually to demand their discharge, and the rewards to which they were entitled. "Your demand," said he, "are just; you shall have your discharge. Your frauds, if you deprive of your rewards, as soon as I find we have mistaken the roll of your enemies. Go then, civitas (quiescit) return to your homes and families," Graced and mortified as being addresed with an apellation, which implied that they were no longer soldiers, they made a fresh tender of their services, and supplicated the honour of being still the companions of his victories. After some influence, and a suitable speech, he pronounced their pardon, and again addressed them as felllow-soldiers. This legion, from this time, uniformly distinguished itself by the ardour of its attachment to him. The African war commenced in the year B. C. 46, and was for some time attended with dubious successes on the part of Cæsar. However, by the celerity of his operations, he completely defeated the armies of Scipio, Labienus, and Juba; but the town of Utica was still defended by Cato and his "little senate." This true patriot, perceiving that resistance was infecetual, secured his own freedom by a voluntary death. When Cæsar had settled the government of Africa, and issued orders for the re-erection of Carthage, he returned to triumph to Rome, and was received by the senate and people with unbounded adulation. To the dictatorship, extended to ten years, was added the consulship. A double guard was assigned him, and his peron was declared sacred and inviolable. A thanksgiving of 20 successive days, and four distinct triumphs, were decreed for his victories. His triumphs over Gaul, Egypt, king Pharamas, and Juba, were conducted with singular splendour: he treated the people with shows, feasts, and donations, and conferred ample rewards on his soldiers. He also directed his attention to the reformation of the government, and enacted several salutary laws; but he refused to himself the nomination to all offices and employments. At this time he availed himself of the assistance of Sosigenes, and other men of science, in the correction of the calendar (which fe), and in the establishment of the "Julian year."

Whilst Cæsar was thus employed at home, the two sons of Pompey were collecting a considerable force in Spain, and his presence was necessary to restrain their projects. Accordingly, in his fourth consulship he detached the Spanish war, and having reduced several places, he marched to the plains of Munda, where the elder Pompey was encamped. Notwithstanding the superiority of the enemy, he advanced to the attack; and in the battle which ensued, contended for a long time, as he himself acknowledges, not for victory, but for life. So desperate were his circumstances, that, at one period of the conflict, he thought of killing himself; but recovering his self-possession, he exerted himself with such valor as to turn the fortune of the day, and in the event of the contest to annul the rebels of Roman liberty. After having completed the reduction of Spain, he returned to Rome and received new honours. The dictatorship was abolished for life: and the title of "Imperator," as head of the empire, and denoting the highest monarchial rank, was conferred upon him, and from him it was transmitted through his successors. Notwithstanding all these accessions of rank and honour, Cæsar retained the envious manners of the first citizen of the republic, and studied to ingratiate himself with the nobles and people.
people. He pleased the latter by dismissing his guards, restoring the statues of their former favourite, Pompey, and treating them with shows and largesse; and he secured the attachment of the nobles, by the multiplication of offices of dignity and profit. However, he offended the senators, by increasing their number from 300 to 900, and by admitting several patrons of low origin to this honorable class. The Romans, who entertained an inveterate prejudice against the name of king, were further offended by Antony's offering to Caesar a royal diadem; for though he refused the gift, he was suspected of being privy to the design. See Antony. It has been suggested, indeed, that as Caesar had formed extravagant schemes of conquest, comprehending an expedition against the Parthians, Hyrcanians, Scythians, and Germans, and was emulous of imitating the exploits of Alexander, he and his friends had imagined that the title of king would be serviceable to him in the execution of these grand and extensive designs, and command reverence among remote and barbarous nations. This, and a variety of other circumstances contributed to excite envy, jealousy, and resentment in the minds of several of the first men of Rome; and to concord, with some remnant of an attachment to liberty, in producing a conspiracy against Caesar's life. Caesar himself was warned of it by his friends; intimations had been circulated, for some time, of the perfons concerned in it, and of the time of its execution: and to fully 510. was and have reckoned wounds, discovered could Rolhn's treating of the uses of the Latin language. Alinus Pollio, at a period when the events which it records were recent, questioned its accuracy and veracity; and it is not improbable that the writer might have accommodated the detail of facts to the advancement of his own reputation. We have various editions of this popular work, the best of which are the "Valerius," by Elzevir, 1661; "Gravius," Amst. 1697; "Davis's," Camb. 1717; "Clarke's," fol. Lond. 1712; "Oudendorp's," J. Bat. 1737; "Barbou's," Paris, 1745.

In the exercise of his talents, Caesar polished such variety of application, and such a facility of directing his attention to different subjects, that he is said to have dictated dispatches to three secretaries at once. But whatever excellence he might possess as an orator or general scholar, his ruling passion was "ambition," and to the gratification of this he devoted, in the matured years of his life, all his mental and corporeal faculties. The influence of this passion marked and discriminated his character; and whilst it exhibits him to view as a successful warrior and useful legislator, polishing many qualities, and performing many services, which entitle him to admiration and respect, it throws a shade over his most illustrious talents and actions, and excites an abhorrence of usurpation and tyranny. "Without pretending to palliate the excesses of his youth, or to justify the schemes of his ambition, he was," says one of his biographers, "one of the most accomplished heroes that ever lived. With the molten talents for war and legislation, he polished a liberality of spirit, an elegance of taste and manners, a generosity of heart, a greatness of mind, and an humanity of disposition, which distinguished him from all the other great men of that republic, who were generally cruel, ferocious, and immoveable." "Julius Caesar," as the same writer proceeds, "is accused of having overthrown the liberties of his country. But what liberty did it enjoy before he appeared on the stage, when Rome was defoliated by the civil butcheries of Marius and Sylla? and what liberty did she retrieve, when Caesar, the supposed obstacle, was removed? The truth is, the Romans were become so prolific, vicious, and venal, and such universal corruption of morals prevailed, that they neither desired to enjoy, nor were they capable of reifying, the blessings of genuine liberty; and Caesar was the only person, when living, who could restore peace, order, and security, give confidence to their government, and stability to their empire." "He was born," says another writer, "to command mankind, if great qualities were alone sufficient, and superior to right. Had his birth or a regular election placed him on the throne, he would have been an example to be imitated by all foreigners. But his private conduct would be a very bad model; his whole life being a continued scene of rapine, extortion, luxury, and profusion, and a debauchery to all kinds of scandalous debaucheries." Sueton, Cæsar, Plutarch, C. Cæsar, oper. t. i. p. 97-37, &c. Cæsar's Comment. Anc. Un. Hist. vol. xi. Rollin's Rom. Hist. vols. viii. ix.

Cæsar, in Entomology, a species of Musca, described by Linnaeus.
Linnaeus as being of a flaxen green, with black legs. This is a common European insect.

**Caesar Augustus**, in Ancient Geography, a town of Thither Spain, seated on the river Iberus, formerly called Salduba, and which afterwards became a colony. Augustus gave it to the veteran soldiers of his army, after the war of the Cantabri, whence it obtained its name, the epithet of immunitis, and the right of coinage money; now Saragossa.

Cesarea, a name given to several ancient cities. There were two cities in Palestine of this name, viz. Cesarea Pæan or Cesarea Philippi, and Cesarea-Stratona. The former was built by Philip the tetrarch, son of Herod the Great, and made the place of his residence, as it was conveniently situated between Ituraea and Trachonitis. Luke, iii. 1. He built it, says Josephus, (Antiq. i. 18. c. 3. 1. 20. c. 8.) at Paneas, by the springs of Jordan, and called it Cesarea-Philippi, and Nerodida in honour of Nero. It was feated at the springs of Jordan the Left, not far from Libanus, in the Midland Phœnicia, says Ptolemy, and was a Decapolis city called Cesarea-Pæan, or Sub-Pæan, from the name of the mountain Panius, mentioned by Josephus and Eusebius, under which it lies. It is mentioned Matth. xvi. 13: Mark, vii. 27, and was first called Laes or Lasis, Joth. xviii. 7; and when subdued by the Danites, Dan, b. v. 29. The latter, Cesarea-Stratona, or the town of Strato, was the metropolis of Palestine, after its re-union to the Roman empire, and the seat of the Roman proconsul. As it was a mart-town, with a very incommodious heaven, Herod the Great built on the site of it a large city, with many stately marble buildings, a theatre of stone, a capacious amphitheatre, and an admirable heaven, with marble edifices and towers. Herod also constructed, on an eminence, a beautiful and magnificent temple of Augustus, and placed there a colossal statue of this prince, on the model of the statue of Jupiter Olympius; and a statue of the city of Rome, equal to that of Juno at Argos. Herod, according to Josephus, called the port Sebaite, and the city Caesarea, in honour of Caesar Augustus, which he annexed to the province of Syria. He also established quinquennial games, and distributed a great number of prizes at the first celebration of them, A. U. C. 743. The city was afterwards given to Agrippa, the grandson of Herod the Great, by the emperor Claudius. Judæa and the city of Caesarea were re-united to the Roman empire, at the death of king Agrippa, A. D. 44; nor were they seperated till the invasion of the Arabs, in the 7th century. Caesarea was situated between Doron and Joppa, 35 miles from Jerusalem, and was inhabited partly by the Jews, who had their schools there, but chiefly by the Greeks or Syrians, with whom there were feuds concerning equal privileges; so that the Caesareans killed a great number of Jews, when Florus was procurator of Judæa. In this city Peter converted Cornelius and his kinmen. Acts, x. Here lived Philip the evangelist, Acts, xxii. 8; and here Paul defended himself against the Jews, and their orator Tertullus. Acts, xxiv.

Caesarea, in more ancient times called Mazaca, and afterwards Eucibia, and denominated Cesarea by Tiberius, in honour of Augustus, was the metropolis of Cappadocia, and the residence of its kings. It continued in a flourishing state under the Greek emperors. When it was besieged by Sapor, King of Persia, about A. D. 260, it was supposed to contain 400,000 inhabitants. At this time Demetrius commanded in the place; and when the city was betrayed by the perfidy of a physician, he cut his way through the Peridians, who had been ordered to exert their utmost diligence for taking him alive, whilst many of his fellow-citizens were involved in a general massacre. Sapor is accused of treating his prisoners with wanton and unrelenting cruelty. Deep valleys were filled with the slain; and crowds of prisoners were driven to water like beasts, and many perished for want of food. Zonaras, l. xii. p. 630. After the reign of Heraclius, when the empire was divided into different military departments, Cappadocia, together with Caesarea, its capital, which had surrendered to the Saracens, was comprized in the department of Armenia; but it was, at a period not ascertained in history, ruined by an earthquake. In the 13th century, it was rebuilt about 1/4 of a league more to the north than the old city, by a sultan of the Selgouricide race. It is now called Kaffarije and Kefarea, and is a city of some note. It is the stage of all the caravans of the eali, which here differce themselves to their respective cities. The bazaars are handsone and well flored, and the inhabitants in a considerable degree polished. It was the seat of St. Basil, and its archbishop holds the first rank among the prelates who are under the patriarch of Constantinople.

Caesarea, is also a town of Armenia Minor.—Alfo, a town of Asia Minor, in Bithynia, according to Ptolemy, who places it between the river Rhyanudes and Mount Olympus, near the sea.—Alfo, a large and famous town of Africa, in Mauritania, which was formerly a royal city, and had a magnificent port on the Mediterranean. It gave the appellation Caesarienos to one of the districts into which Claudius divided Mauritania, and it was anciently called Jeral. It was the residence of king Juba, who enlarged and embellished it, and called it Caesarea in honour of Augustus. Claudius made it a Roman colony. It has been ruined for many ages. It was reduced to ashes A. D. 375, by Firmus, who assumed the title of king among the Moors, but who was made to submit by Theodorus, sent to Africa by Valentinian. When it was just recovering itself, it fell under the power of the Vandals, who burnt it. After the destruction of the Vandal government in Africa, it remained in a tranquil state for more than a century under the Greek emperors. This city was encompassed by mountains to the south, east, and west, and Procopius says, that there was no access to it but by the sea. According to Mela, it was situated at the confluence of the rivers Malucha and Ampsga. Sanfon, and other geographers, place Julia Caesarea at Thins or Ternis; but Shaw, (Travels, &c. p. 18.) adduces several arguments to prove, that it is the present Sardis, which fircr Cesarea is also a name said to have been formerly given to the island of Jericho, which fere.—Cesarea was also a town of Italy, in Cialpine Gaul, not far from Ravenna.

Caesarean Section, in Midwifery, an operation by which a fætus is extracted from the uterus of the mother, through a wound, made for the purpose, in the abdomen. The term, cesarean, is said to be derived from the operation "caeco matris utero," and Pliny even deduces the title of Cæsar, given to the Roman emperors, from one of them having been brought into the world by means of it. Whether this was the case, or not, it seems not improbable, from the prevalence of the opinion, that the operation had been performed prior to his time, although no account of it is to be found in the works of Hippocrates, Celsus, Paulus Aegineta, or Albucius, all of whom treat largely on the mode of assisting in difficult parturition. The only method recommended by these writers, for extracing the fætus when it was too large to pass entire by the natural passage, was to diminish its bulk with scissors, or other cutting instruments, and then to draw it away with hooks, or crochetts; a method, in fact, which is now followed, but with instruments more artificially constructed.
and thence is likely to injure the women, than the more rude was contrived by the ancients.

The earliest account we find of the caesarean section in any medical work, is in the Chirurgia Guilelmi de Camhus, published about the middle of the fourteenth century; but the author only speaks of it as related to the death of the woman, as was practiced, he says, on the birth of Julius Cæsar.  

Soاعت menting certain works of Galen, and the things passed;  

qui vetat les relex malheric pregnanti homini, quoniam id cruciat  

fuepsiacens quod mortuus est versus; quia vetat  

les regia malheric praegnans homini, quo fiat  

francis, et affectione filius, et materiam apertam, ut  

veneri medici, operatam nulher fecundam longitudinem, cum  

fuerint in Laete fistulae; quia pars ilia est magis libera  

domus, ut supra dictum hepar; et digitis intersitis  

extrahant fectum. Ita enim extractus fuit Julius Cæsar; ut in  

gentis legitor Romanorum." vide Cap. de extractione fectus.

Vigo, who was born towards the end of the 15th century, in the first chapter he gives on difficult birth, takes no notice of this mode of delivery; and Paré, who greatly improved the practice of midwifery, thinks the operation only allowable on women who the undelivered. He had heard, he says, not without amazement, of women who had been more than once subjected to the caesarean section, it not being practicable to deliver them by any other means; but he considered the operation as much too dangerous to be adopted, "ceterum non possimus fatia mirari cos qui fi visas  

mulieres affirmant, quibus non femel novacula absum  

cum fulfacia utero resiliunt fit ad fectum, nusquam aliquo  

practicissimo, extrahendum. Id enim, facile mater, fieri potest  

mihi perfundere, nusquam potuer." vide "De Hominis  

Generatione," cap. 31. But Rouflet, who was contemporary  

with Paré, having collected accounts of a number of cases in which the operation was said to have been successfully performed, published in 1581, says, "Traitez nouveau de l'Hydrotomotokie, ou Enlantement cæsarien, qui ell l'extraction de l'enfant par incision latérale du ventre et de la  

matrice de la fémme grôfe, ne pouvant autrement accoucher; et ce fans prejudicer la vie de l'un et de l'autre, ni empêcher la fecundité naturelle par après." But though  

Rouflet speaks with great confidence of the safety of the operation, and is warm in its recommendation, it does not appear that he had ever seen it performed, or that more  

than one of the six perfons, whose cases are related by him,  

were known to him. The book, however, soon became  

popular, and being some years after, viz. in 1647, translated  

into Latin by Caspar Bauline, with additional cases and observations, it was quickly circulated over Europe. From that time, the operation began to acquire a certain  

degree of vogue, and to be resorted to in cases of extreme difficulty, particularly on the continent, where it is said to  

have been not unfrequently performed with complete success.  

Not so in this country. In five cases in which it has been  

performed at Edinburgh, three of the children were extracted through the aperture alive, but the women all died. In England, where the operation has been performed ten  

times, one of the women only recovered. This gives little  

encouragement for repeating the trials here. But as this  

almost uniform fatality may be in part attributed to the  

extremely debilitated state of the women, who had been in  

labour several days before the operation was determined on, it has been observed, and with apparent reason, that if it had been performed earlier, before the strength of the women had been exhausted, and a feverish indisposition induced, or before the bladder and other soft parts had been injured by dilatation and pressure, a more favourable termination might have been expected; as to that circumstance, viz. a more speedy, or prompt determination, may be attributed  

the superior success with which the operation has been  

performed on the continent.

Having given this sketch of the history of the Cæsarean section, it remains to state the causes rendering it necessary, and to describe the manner of performing the operation.

Whenever any insurmountable impediment exists, rendering it impracticable to bring the child through the natural passage, recourse must be had to the Cæsarean section, or the woman, and child, must inevitably perish.

The most common impediment is, such a deformed and altered shape of the bones constituting the pelvis, as to leave too small a space for admitting the fingers of the assistant to pass between them; disabling him from introducing and directing the necessary instruments for opening and lifting the head, or other part of the child that may happen to present, or lie over the orifice of the uterus.

Abroad, particularly in France, the Cæsarean section has been performed where no such impediment existed, or, at least, not to the degree that would be required in this country; as is evident, by the accounts published of women, who after being subjected to the operation, have borne living children by the natural passage, which could not happen, if the pelvis was considerably dilated, or morphous.

Cases requiring the Cæsarean section, are very rare in this country; that is, there are very few women whose pelvis are dilated as not to allow a passage for the fingers of the assistant to conduct the necessary instruments for opening the head of the fetus sufficiently to allow its contents to be squeezed out, and its bones to collapse so far as to allow the operator to fix a hook or crotchet, with which it may be gradually drawn down, and extracted. Through how very narrow a space this may be done, we have a remarkable instance related in Dr. Osborne's "Treatise on Laborious Parturition."

Authors mention other causes of impediment to the birth of the child, as confinement of the os uteri, or of the sides of the vagina; or large tumours filling up that passage; but these may be all removed by operations much easier and less hazardous than the Cæsarean section.

Whenever on repeated examination of a woman in labour, the accoucheur finds the pelvis dilated to the degree described above, he should apprise the husband of the dangerous state of the woman, and declare the assistance of one or two of the most experienced surgeons in the profession; and if on a consultation it should appear that it is impossible to bring the child by the natural passage, the husband should be made acquainted with the nature of the impediment, and informed there remains no hope of preserving the life of the woman and child, but by opening the abdomen of the woman, and extracting the child through the wound. At the same time acquainting him, that the operation, though hazardous, is not necessarily fatal, many women who submitted to it having recovered. That the hope of a favourable termination depends on its being performed early, before fever comes on, or any material injury is done to the uterus or neighbouring parts.

If the husband should be satisfied of the necessity of the operation, the woman should then be apprised of her situation, in the most cautious manner, and having obtained her consent, a glycer is to be thrown up to evacuate the contents of the bowels, and the bladder emptied through a catheter, and a few drops of the tincture of opium given to quiet pain as much as possible, prior to the operation, the manner of performing which, is thus described by Mr. Thompson, late surgeon to the London Hospital. "Medico Observations and Inquiries," vol. 4. p. 271.
An incision is to be made on the right or left side of the navel, whichever happens to be most prominent, six inches in length; the middle of the incision to be about level with the navel, from which it should be dilatant a hand's breadth. Drift cut through the skin, then through the tendinous expansion of the abdominal muscles, and the peritoneum. The uterus being now brought to view, a small opening must be made, to enable the operator to pass his forefinger as a guide for the knife, in extending it to the size of the external wound; an astillent must then introduce his hand, and bring away the child, and the placenta. This being effected, an astillent must keep in the bowels, which would otherwise protrude, while the operator makes the gastroscopy, or future of the belly. Proper bandages are then to be put on, and the woman put to bed. The cure to be conducted in the same manner as after other operations. The subject of the Cæsarian section is treated in an ample and ingenious manner by Dr. Daman in his "Introduction to Midwifery," and by Dr. John Hull, physician at Manchester, in his "Defence of the Cæsarian Operation," 1798.

CÆSARIA, river, in Geography. See COHANZI.

CÆSARIANA, in Ancient Geography, a place of Italy, on the Appian way, situate, according to the Itinerary of Antonine, in the route from Rome to Colonia, 39 miles from Neronia, in Lucania.—Also, a place of Panorma, which, in Antonine's Itinerary, is situate on the route from Sabaria to Acenem.

CÆSARIANS, or Cæsarienses, in Antiquity, were ministers or officials of the procurator Cæfari, to whom belonged the keeping of the fiscal accounts, and taking possession of effects devolving or exchequing to the emperor. These were also called cæsarienses. From the appellation Cæsarienses some deduce the modern word sergeant. See SERGEANT.

CÆSARODUNUM, in Ancient Geography, a town of Gaul, assigned by Ptolomy to the Turbones; now Tours, which fec.

CÆSAROMAGUS, a town of Gaul, which, according to Ptolomy, was the capital of the Bilovoci; now Beauvais, which fec. - Alb., a station in the 7th route of Antonine, 28 miles from London; the position of which cannot now be exactly ascertained; but by the distance from London, and the direction of this route, it is supposed to have been at, or near, Chelmford.

CÆSENA, Cæsena, a town of Italy, in Gallia Cispadana, on this side of the Eridanus, with respect to Rome, according to Strabo and Pline.

CÆSIA Sylva, the Cæsian wood, was part of the Hercynian, placed by Clusius, partly in the duchy of Cleves, and partly in Westphalia, between Wezel and Koedel. Germanicus traversed this forest in his march to attack the Maris, whom he found in a defencelas flat, and attacked with great slaughter, A. D. 15. Tacitus.

CÆSIAS, or Kaus, in Meteorology, denotes the north-east or N. E. by wind; called in the Mediterranean, enauta Graec, or Orecteo levans. Pline calls this wind Hellepons, as blowing from the Hellepons. See EURIDYDON.

CÆSTUS, or Cæstus, a large leather gauntlet, or glove, made of straps of leather, and plated with brasses, lead, or iron, rubbed with, used in the combats, or exercises of the ancient athletes, to strengthen the hands of the combatants, and to add violence to their blows. It was called cæstus, a cæstodio, from cæstodio, to flinte, or shoot.

The cæstus originally consisted of many thongs of leather, or raw hides of bulls, wound about the hand and arm up to the elbow, and seems to have been invented, as well for a safe-guard to those parts that were most exposed in the first fury of the combat, as for an offensive weapon; though, when it was lined with plates of lead or iron, as it sometimes was, according to Virgil, (Aen. v.) it seems to have been intended chiefly for the latter purpose. It is observable, however, that the Greek poets, who have given us a description of the cæstus, have not mentioned plates of lead or iron. By thus binding up the hands of the combatants with thongs of leather, they might also design to prevent their laying hold of each other, or with their fingers and nails ripping open the belly; a circumstance, which occurred in the Nemean games, and which gave occasion for bringing the flaps of the cæstus over the fingers, and fastening them upon the wrist; whereas, before this accident, they were tied in the palm, or hollow of the hand. See Pausanius, l. c. 46. This author applies the epithet palpites, or soft, to the ancient cæstus, probably, because it was composed of raw hides. But it is not unlikely, that as the Greeks began to refine upon the gymnastic exercises, and the science of the athlete became a kind of profession, the cæstus should from time to time receive several additions: and, that at length, it should be improved by the Romans, who delighted in bloody spectacles, into thatrible weapon described by Virgil. This conjecture will account for the difference observable between that in Virgil, and those described by the Greek poets. The combat of the cæstus was very ancient, and is said to have been invented by Anyucus, king of the B. Brycians, who was contemporary with the Argonauts, as we are informed by Clemens of Alexandria, Stromat. I. It was revived in the 23d Olympiad, B. C. 488. But we are informed by Plutarch (in Alca.) that Alexander never admitted either the cæstus or the panarmion among those games which he exhibited during his war in Asia. Lycusus also banished these exercises from Sparta, because he would not allow the people to accustom themselves to yield the victory to those with whom they contended, not even in sport. Besides, the combatants in the cæstus fought after, and cherished corpulence, or polyuria, (metablastes) as the Greeks called it, a sort of covering and defence of their bones and muscles against blows and buffets; but this mode of life was improper for a soldier; for, as Olympumus observed to a fellow soldier, whom for his bulk he turned out of the army, it would require three or four shields to cover and defend a belly that hindered a man from facing his own knee. However, it was practised by the heroes of the Iliad, and it was one of the games exhibited by Alexus in honour of his father Archikles; and Amycus valued himself so much upon his superiority in this combat, as to compel all strangers who touched upon his coat, to take up the cæstus, and make trial of his strength and skill in the use of this rude instrument of death. See Wet's dissertation on the Olympic games, prefixed to his "Odes of Pindar," &c. vol. ii. p. 165.


with one or two teeth. Flowers, as well as the general habit of the plant, similar to the preceding. A native of Guinea.

CÆSURA, in Ancient Poetry, is when, in the scanning of a verse, a word is divided, so that one part fees cut off, and goes to a different foot from the rest; e. g.

\[ \text{Menti | ri no | tiu men} \]

Where the syllables ri, ti, quam, and men are cæsuras.

Or, it denotes a certain and agreeable division of the words, between the feet of a verse; whereby the last syllable of a word becomes the first of a foot; as in

\[ \text{Arna vivintur cano, Troja qui primus ab oris.} \]

Where the syllables no and je are cæsures.

CÆSURA, a cut, a separation, a breathing-place, in Vocal Music. The Germans have applied this poetical term to music, with no great analogy, and the French are trying hard to naturalize and adopt it. In the supplement to the fol. edit. of the Encyc. M. Cafliron has given it an article which in the new 4to. Encyc. Methodique, M. Framery has analysed, and contorted in an agreeable manner. The first musical dictionary in which the term occurs, is that of Walther, which, though a small octavo volume only, contains more definitions, explanations, biographical and historical articles, than all the dictionaries that have been published since 1724, when it first appeared in German. Nothing in English expresses so well what the Germans and French mean to inforce by the term cæsura in music, as the word phraseology, which see. In vocal music, the measure of the verse determines the phraseology of the melody. In instrumental music, a symmetry of phrase, to a certain degree, seems necessary, where either grace or energy is required. As to subject, the first two or three bars give the general caft and character to the whole movement. This is more obvious in Haydn's belcanto symphonies, sometimes even through a feeming wildness and freedom of fancy. If you lose the first idea in the treble, you find it in the base, or subordinate parts, as too much symmetry in the upper part is apt to degenerate into monotony and dulness. An even number of bars, and cæsures at equal distances, however, seldom fail to interest and impress the hearer. Metastasio's measures have suggested to composers, and rendered necessary, a greater variety of air, than the epic poetry of Italy, or any other country possessed before. Grace is often obtained by a succeflion of daëtyles and regular resting places.

\[ \text{Vō fōlēndō un mār eruīde} - \]

See PÆSUS, CÆSURE, CÆSURA.

CÆSURIS paribus, a Latin term, in frequent use among mathematical, and physical writers.

The words literally signify, other things being equal; which expresses pretty nearly their meaning as a term. Thus, we say, the heavier the bullet, cæsuri paribus, the greater the range; i.e. by how much the bullet is heavier, if the length and diameter of the piece, and the quantity and strength of the powder, be the same, by so much will the utmost range or distance of a piece of ordnance be greater.

Thus, also, in a physical way, we say, the velocity and quantity of blood circulating in a given time, through any section of an artery, will, cæsuri paribus, be according to its diameter, and nearness to, or distance from the heart.

CÆTOBRIX, in Ancient Geography. See CÆTOBRIGA.

CÆLTSE, in Geography, an island in the Adriatic, or Venetian Sea, which affords anchorage for shipping.

CÆFARA, a town of Portugal, in the province of Alençon, 12 miles E. of Moura.

CÆFARO, in Biography, a Neapolitan composer of great abilities, of the old school, perhaps the last, in the ecclesiastical style, after Leo. He was living in 1774; and at that time was thought by many the best composer for the church in Naples. His style was nervous, yet not rude. In his ecclesiastical productions (lays a French writer, before the revolution,) he proved that there is a style for religious rites capable of interesting a devout audience, and redoubling fervour, instead of diverting their attention from sacred concerns.

CÆFARTUTHA, in Ancient Geography, a town of Albania, or Mesopotamia; placed in the Nabian geography, between Dara and Achebubur.

CÆFER, in Entomology, a species of Cimex, found in Africa, and described by Thunberg. This insect is of a black colour, with a white band on the thorax; ferruginous wing-cafes, and four white spots. See CÆFER.

CÆFER, a species of Scarabæus, green, with the margin of the thorax and elytra spotted with white. Fabrici.ounded at the Cape of Good Hope.

CÆFER, in Ornithology, a species of Meteor, with grey plumage, a yellow spot near the anus, and very long tail. This is the grey bee-eater of Ethiopia.

CÆFER, a species of Picus, brown above, beneath grape-coloured, dotted with black, the under part of the wings and the shafts of the wing-feathers, and those of the tail vermilion-coloured. Found at the Cape of Good Hope. Gmelin.

CÆFERISTAN, in Geography. See KUTTÖRE.

CÆFFA, in Commerce, cotton cloths painted with several colours, and of divers designs; they are manufactured in the East Indies, and sold at Bengal. The length and breadth are not the same in all pieces.

CÆFFA, or Kaffa, in Geography, the ancient and modern Theodotis, a sea-port town of Cim Tartary, now called Taunda, is situated on the south-east side of the peninsula, and forms a harbour of the Euxine, or Black Sea. It was formerly the capital of the Crimea; and the Tartars distinguished it by the name of Half Constantinople. The Genoese, when they attempted to acquire an independent trade with the East Indies, took possession of it about A.D. 1226, maintained it for more than 200 years, and rendered it the seat of an extensive and flourishing commerce. They fortified the port, strengthened and augmented the fortifications, and embellished the city with many flatly edifices, the ruins of which are visible even at this day. Having the dominion of the Black Sea, and thus most commodiously lotted for trade, they were furnished with the means of expenditure by the riches accruing from their commerce. But in the year 1445 they were deprived of this port by Mohammed the Great, after they had closely afflicted in bringing the Turks into Europe, and in reducing Constantinople, against all the rules of true policy, as well as dictates of religion. After the Genoese were dispossessed of the dominion of Caffa, they still carried on, for a long time, as merchants, a very lucrative commerce with the inhabitants, who, by way of the Caffian Sea, found means to conduct a considerable trade in spices, drugs, cotton, silk, and other Indian commodities. At length the Turks became jealous of the intercourse of the Genoese in these parts, and absolutely excluded them, as well as all other nations, from trading to, or even so much as
as entering into the Black Sea. This exclusion, however, did not immediately terminate the commerce between Caffa and Genoa; for the Tartars were so well apprised of the advantages derived from this commerce, that they professed it for some time in their own vessels; and carried the spices, and other Indian goods, which they received by caravans from AEhraea, and which had been brought thither from the opposite side of the Caspian Sea, to Genoa; but the Turks soon put an end to this kind of intercourse, and thus secured themselves from the fears of seeing a Christian fleet in those seas, at least from Italy. Nevertheless, Caffa, notwithstanding all the disadvantages resulting from its subjection to the Turkish government, continued to be a place of considerable trade. Sir John Chardin, who visited it, A.D. 1674, relates, that during his residence of 40 days there, he saw more than 400 ships sailing in and out of this port. He observed also several remains of Genoese magnificence. In 1774, Catherine II. obtained for Russia the possession of the straits of Caffa, together with some other local and commercial advantages; and by the convention of 1783, the whole peninsula of the Crimea was added to the Russian dominions, under the name of the province of Taurida, and the Turks having finally ceded their pretensions to the emperors, declared this a free port in her newly acquired territories, under the apellation of Theodosia. Caffa was formerly one of the best built and richest places of its size in Europe. It stands at the foot of a small hill upon the sea-shore; the buildings extending north and south, with long walls stretching on both sides down to the sea; so that from the port, which is large, safe, and commodious, it exhibits a very agreeable appearance. On the south side is a castle, which used to be the residence of the Turkish bajhaw. The number of houses have been estimated at 5000 or 6000, and the inhabitants have been computed at 20,000. According to M. Pellyonnel, (Commerce de la Mer Noire, tom. i. p. 15.) the number of inhabitants amounts to 80,000. The bay is capable of containing several hundred merchant ships; and the inhabitants are the richest, and drive the most extensive trade in the Black Sea. The productions of Crim Tartary, exported from Caffa and the other towns of the peninsula referred to by the Greek and Armenian merchants, consist chiefly in corn, wine, wool, fine black and grey lamb-skins, and salt. The imports are fine and coarse linens, printed cloths, oaken, Russian leather, fine cloths, velvets, taffeties, furs, ropes, paper, salted fish, and civiarea, tobacco leaves, copper and tin, hardware, gold and silver thread, beads, and corals, earthen wares, a coarse sort of porcelain, and glass ware, &c. N. lat. 45° 16'. E. long. 35° 20'.

Caffa, straits of, the ancient Cimmerian Bolphorus, are the narrow passage, or found, which forms the communication between the Black Sea and the south, and the sea of Azof to the north. Near the northern entrance of these straits are the fortresses of Kertich and Yenikalé, which command the passage. They take their name from the port of Caffa. N. lat. 45° 16'. E. long. 35° 45'.

Caffa, a province or kingdom of Abyssinia, adjoining to the kingdom of Narea, and situate to the south of it. It is wholly mountainous, without any level ground. It is said to be governed by a separated prince, and to have been converted to Chriftianity in the time of Melce Segued, some time after the conversion of Narea. The inhabitants of these lofty mountains are not so dark in their complexion as Neapolitans or Sicilians. It has been said, that snow has been observed to lie on the mountains of Caffa, as well as on the high ridges called Dyre and Tegla; but the fact is discredited by Bruce; Travels, vol. ii. p. 513. About N. lat. 8°, and E. long. 35°. See Narea.

Caffa. See Caffa.

Caffa, or, as it is called, in Mineralogy, or earth of Kaffa, (corruptly called Caffa) is a very fine grained white tenacious clayey marl, dug in the Crimea, and formerly shipped from the port of Kaffa to Constantinople, in large quantities for the use of the Turkish women. Being mixed up with water to the confluence of thick cream, it was rubbed by hand among the hair, which, when washed again with water, was thus rendered perfectly clean and of a silky smoothness. For this purpose it was greatly preferable to soap, which, though it cleans the hair, is apt to discolor it, and render it harsh and brittle. When the Crimea was conquered by the Russians, this branch of commerce was stopped, and is not likely to be resumed, Constantinople being now supplied with a white clay from Asia Minor, which is equally good with the earth of Kaffa. Pallads Travels in the Crimea, vol. ii.

Caffarelli, (Gaetano Majorano, detto) was one of the greatest singers that Italy ever produced. He came to England in 1738, the year after Farinelli's departure. He sung in two of Handel's operas, Furarmond, and Alessandro Severo. But though he afterwards acquired such celebrity on the continent, he was not in high favour here. For though Farinelli, the last year of his performance in this country, had been neglected, no successor would be listened to of inferior fame, or indeed talents; for Caffarelli was never in voice or in good humour, all the time he was in England. The feeds of caprice with which nature seems to have furnished him, began early in life to spring up, and in his riper years, and fame, grew to an amazing height: Many traits of his character were current in Italy, long after he had quitted the stage.

When Giziello first sung at Rome, his performances far exceeded every hearer, that it became the general subject of conversation, which not only contributed to spread his fame through that city, but to extend it to the most remote parts of Italy; it is natural to suppose that the account of this new musical phenomenon soon reached Naples, and equally natural to imagine that it was not heard without indifference in a place where so powerful a propensity to musical pleasures prevails. Caffarelli, at this time in the zenith of his reputation, was so far piqued by curiosity, perhaps by jealousy, that he took an opportunity of the first time he could be spared from the opera at Naples, to ride pot all night, in order to hear that at Rome. He entered the pit, muffled up in a pelisse, or fur-gown, unknown by any one there; and after he had heard Giziello sing a long, he cried out as loud as he possibly could, "bravo! bravilimo! Giziello, è Caffarelli che ti lo dice," 'tis Caffarelli who applauds—and, immediately quitting the theatre, he set out on his return to Naples the same night.

When at his best, Caffarelli was thought by many a superior singer in some respects, to Farinelli; among these Porpora, who hated him for his insolence, used to say, that he was the greatest singer Italy had ever produced. At the marriage of the present King of Sardinia, then prince of Savoy, with the Infanta of Spain, who had long been a fechoral of Farinelli, it was with great difficulty that Caffarelli was prevailed on to go to Turin with the Aflrunt, to perform at the royal nuptials, in an opera which the King of Sardinia wished to have as perfect as possible. But Caffarelli, who came with an ill-will, by order of the king of Naples, seemed but little disposed to exert himself; declaring before-hand that he had lost a book of clothes on the road;
read, and should be able to do nothing. This was told to
by the Sardini Majorly, who was much perplexed how to
was the heir apparent, have a tail or none—yet,
tailed travellers, kills, "il! company now and
whereas, 779, Good
colour, to was
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at the Cape of Good Hope, where it is found in large
in the same district, retiring by day into the thick
and appearing only in the evening and morn-
ing. It is referred to this creature, that it will often
the skin of such animals as it kills, by ticking them with
its rough tongue, as recorded by some ancient authors
of the Bible. The skin is exceedingly strong, and is on
this account in high estimation with the maligns at the
Cape, for its superior excellence in making harnesses, and other
useful articles, in which the strongest and most durable
kind of leather is required.

The body of the Cape Ox is of a black or darkish colour, and
the face is covered with long hair; the horns are
and black, lie flat upon the head, diverging to
widely, but the tips of the horns are sometimes five feet
in length; the ears are pendulous, and not unfrequently
a foot long; tail short, tufted, and black at the tip. The flesh
is coarse, and has the flavour of venison.

CAFFETANS, are long velvets of gold or silver brocade,
flowered with silk, which are presented by the grand
and the viceroy to those to whom they give audience:
by the grand viceroy before, and by the viceroy after audience.
The cacharot or the attendants are more ornate.

CAPPILA, a company of merchants or travellers, or
both together, who join company, in order to go with more
security through the dominions of the Great Mogul;
and through other countries on the continent of the East
Indies. In Peru, the cabilla differs from a caravan; as the former
properly belongs to some sovereign, or to some powerful
company in Europe; whereas, the latter consists of a
company of particular merchants, each of whom trades on
his own account. There are also such cabillas, which cross
some parts of the defects of Africa, particularly what is
called the sea of sand, which lies between Morocco, and
the kingdom of Tembuk and Gago. This is a journey of
four hundred leagues, and takes up two months in going;
and as many in coming back; the cabilla travelling only
by night, because of the excessive heat of the country.
The chief merchandise they bring back consists in gold-
dust.

The cabilla is properly what is called caravan in the
inhabitants of the Grand Mogul; and in other parts of the East
Saharan.

On the coast of Guzerat, or Cambaya, it signifies a small
at the Cape of Good Hope. Fabricius describes it as
being hirsute, black, with the posterior part of the thorax,
and anterior part of the abdomen, yellow.

Caffe, in Ornithology, a species of Certhia, of a
lustre colour, with the breast and abdomen pale, and the
middle tail feathers longest. inhabits the Cape of Good
Hope.

Cafferaria, or land of the Caffers, or Kaffers, in
Geography, an undefined district in the southerly part of
Africa; deriving its name from the Caffers, Caffers or
Kaffers, who inhabit it. The appellation is derived from the
Arabic word Caffer, which signifies an inhabited, and is ap-
plied by the Arabs, as a term of reproach, to all those who
do not profess the Mahometan religion. The Portuguese,
taking the same in a more general sense, have denomin-
ted all those nations of Africa Caffers, who have, or seem to
have
have no knowledge of a deity. Geographers have not agreed in assigning the boundaries of that country in the southern part of Africa, to which the appellation of Caffra-ría has been appropriated. By some, the name has been applied to the whole country that commences at Cape Negro; extending from thence south-easterly to the Cape of Good Hope, thence, north-easterly to the river Del Spiritu Sanóto, which separates it on the north-east from Monomotapa; reaching on the north, almost to the equator, where it borders on the kingdom of Makoko; and bounded on the north-west by Congo, or Lower Guinea, and the kingdom of Benguela. Accordingly, they have divided this extensive country into the kingdom of Matamán, the country of the Hottentots, Terra de Natal, and Terra dos Fumos. Others have divided Caffaria into two parts, viz. Caffaria Proper, and the country of the Hottentots. The inhabitants of Caffaria Proper are generally taller than the Hottentots, more robust, fierce, and warlike, and yet their manners are as inoffensive. Their figure is more graceful, their countenances are not so narrow, nor their cheeks so prominent as those of the Hottentots; neither have they the broad flat faces and thick lips of the inhabitants of Mozambique. If it were not for their colour, many of their females would be deemed beautiful even by the Europeans. They tattoo themselves very much, and wear their hair frizzled. In hot weather they are naked; but in winter they throw a "koss" of calf's or ox's skin over their shoulders, which reaches to the ground. Their huts are larger and more regular than those of the Hottentots; their frames are constructed of wood, and they are plastered within and without with a mixture of cow's dung and clay. The women form vessels of clay, and weave baskets of it close a texture as to be capable of holding milk or water. They are more disposed to agriculture than the others; nor would they wander if they were not compelled by an enemy. Their women principally prepare the fields for receiving feed, which is chiefly miller. Notwithstanding the apparent richness of their pastures, their cattle are much inferior in size to those of their neighbours. Their superior knowledge of agriculture, some dogmas of religion, greater industry, and more address in procuring simple necessaries, indicate, that the Caffres have made greater progress in civilization than the southern people. They practice circumcision, but not as a religious rite. They have elevated ideas of a supreme power, and believe in a state of future retribution; but imagine that the world is eternal. They never pray, nor have any religious ceremonies; but they have faith in forcery. They are governed by a chief, whose power is very limited: he is deemed the father of the people, and is often less rich than his subjects; for, receiving no subsidies, and being permitted to have as many wives as he pleases, his finances are not always equal to the support of his retinue; and his honour is hereditary. The Caffres are more courageous than their neighbours: they dare to face the enemy, and disdain the use of poisoned arrows. Le Vaillant's Travels into Africa. For a further account of the country and history of these people, supplied by Mr. Barrow, in his "Account of Travels into the interior of southern Africa," see KAFFERS; see also HOTTENTOTS.

CAGAR, a town of Egypt. 2 miles E. of Siut.

CAFRES. See CAFFARIA.

CAGACO, in Ancient Geography, a fountain of Greece, in Peloponnesus, near the town of Gythium, according to Pausanias.

CAGADA, in Geography, a small island of the West Indies, near the north-easterly coast of Porto Rico. N. lat. 18° 33'. W. long. 64° 10'.

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CAGADO de agro, in Zoology, the name by which the Portuguese in South America call a species of tortoise, common in that part of the world. The Brazilian name is jurena.

CAGADO de terra, is the Portuguese appellation of the jabotí of South America, a remarkable species of tortoise. This is the testudo terrestris of late writers. Kil. Stobaeus Ad. Litter. et Scient. Soc. 1730.

CAGADOS rocks, in Geography, are two large rocks that lie between the island of Palmas and Cape Formosa, on the western coast of Africa.

CAGANUS, or CACANUS, an appellation anciently given by the Huns to their kings.

The word appears also to have been formerly applied to the princes of Mulcov, now called CLEAK.

From the same also, probably, the Tartar title CHAM, or CHAN, had its origin.

CAGAYAN, or CAGEAN, in Geography, a province in the northern part of the island of Luzon or Manila, in the East Indies. It is the largest in the island, being 80 leagues in length, and 40 in breadth. The chief city is New Segovia, which is seated on the banks of a river of the same name, which runs almost across the whole province. In this city is the cathedral church; and here refines the chief Alenayde, with a garrison of Spanish foot. This province commences with the most northerly cape called Del Engano; and after doubling Cape Bejador, which is 13 leagues from the capital eastward, and coasting from north to south 20 leagues, the province terminates on the boundaries of that of Illocos. The peaceable Cagayans, who pay tribute, are about 8000, besides those that are not subdued. The whole province is fruitful; the men are robust, employed in agriculture, and of a martial disposition; and the women apply to several works in cotton. In the mountains bees are so plentiful, that the poor burn wax instead of oil; and they abound with braflf, ebony, and other sorts of valuable wood. In the woods are many wild beafts, particularly boars, and also deer, which they kill for their skins and horns, purchased by the Chinese.

CAGE, an inclosure made with wire, wicker, or other matter, interwoven latteinewife, for the detention of wild beasts or birds. The word is French, cage, formed from the Italian cagia, of the Latin cagea, which signifies the fame: a cagea theatralibus in quibus includantur ferae. Beaws were usually brought to Rome shut up in oak or beechen cages, artfully formed, and covered or shaded with boughs, that the creatures, deceived with the appearance of a wood, might fancy themselves in their forest. Those of the fiercer sort were kept in iron cages, left wooden pinaaos should be broke through. In some prisons there are iron cages for the clofer confinement of criminals. The French laws distinguish two forts of bird-cages, viz. high, or finging cages, and low, or dumb cages; those who expel birds to sale are obliged to put the hens in the latter, and the cocks in the former, that persons may not be imposed on, by buying a hen for a cock.

CAGES, cagea, denote also places in the ancient amphitheatres, wherein wild beasts were kept, ready to be let out for sport. The cagea were a sort of iron cages different from dens, which were under ground and dark; whereas the caue being airy and light, the beasts rushed out of them with more alacrity and ferceness than if they had been pent under ground.

CAGE, in Agriculture, an inclosure formed of wire or wicker-work, for the purpose of containing different sorts of poultry or other animals. It also signifies a machine for weighing live animals of the sheep, pig, and other small kinds. See MACHINE.
CAGE, in Carpentry, signifies an outer work of timber, enclosing another within it. In this sense we say, the cage of a windmill. The cage of a stair-case denotes the wooden fیدx. or walls which enclose it.

CAGELO, in Geography, a town of Italy, in the kingdom of Naples, and province of Calabria Ultra; 6 miles S.W. of Grace.

CAGGAR, or KENAA, a river of Hindoostan, which rises in the mountains that separate Sirhind from Calillore and Sirinagur, about N. lat. 35° 45', and E. long. 76° 43', and pursing its course to the south-west, and meeting with the Surfooty, and other smaller streams, discharges itself into the gulph of Cutch.

CAGLEW, in Botany, a name given by the people of Guinea, to a plant which they boil in water, and use the decoction to wash the mouth with, as a cure for the tooth-ach. The leaves of this are smooth and shining, like those of the hurel, but they are thin, and bend like those of the bay. Phil. Trans. No. 232.

CAGHNEWAGA, in Geography, the name of a small village or district on the north-side of Mohawk river in the township of Johnstown, about 24 miles W. of Schenectady in North America. It might probably have been formerly inhabited by a tribe of Indians of Lower Canada, of the same name, some of whom are found near Montreal.

CAGIT, in Natural History, a name given by the people of the Philippine islands to a species of parrot, very common in their woods; it is of a middling size, and is all over of a fine green colour.

CAGLI, in Geography, a town of Italy, in the duchy of Urbino, built near the ruins of the ancient Callium, on the Cantiano; the see of a bishop, suffragan of Urbino; 18 miles S. of it. N. lat. 43° 30'. E. long. 14° 12'.

CAGLIA, or MATAPAN capo, the south-west point of the Morea. N. lat. 36° 33'. E. long. 22° 36'.

CAGLIAARI, Paolo, usually called PAOLO VERONESE, in Biography, an historical painter, was born at Verona in 1539, and became a disciple of his uncle, Antonio Badiglio, a principal artist at Verona. His talents displayed themselves at an early period; and at Mantua, whither he was conducted by cardinal Hercules Gonzaga, he was distinguished above all his fellow artists. At Venice, the prize of a large gold chain, offered by the procurators of St. Mark for the best picture painted by six eminent artists, was adjudged to Cagliari, by Titian and Sanfiovino.

Having executed several subjects, chiefly of the light and rural kind, exhibiting the fertility of his invention, and the brilliancy of his pencil, in the Venetian territories, he engaged in larger works for churches at Venice and Verona, which served further to advance his reputation. At Rome, whither he accompanied Grimani, ambassador from Venice to the pope, he much improved his style by an inspection of the works of Raphael and Michael Angelo Buonarotti; and on his return to Venice, the doge conferred upon him the honour of knighthood. Only felicitous of the honour to which he attained, in his own country, he declined accepting the invitation of Philip II. to go to Spain, and paint at the Escorial, and sent Zuccheru as his substitute. Such was the respect in which he was held by his brother artists, as well as by persons of distinction, that Titian is said to have grieved him with an embrace, whenever they met; and Guido declared, that next to Raphael and Correggio, he would rather be Paolo Veronese than any other painter of his time. By the number and value of his performances he acquired not only fame, but wealth; and yet he disregarded money, and generously parted with it, whenever any suitable occasion offered. Of his generosity, as well as facility in the exercise of his art, the following instance is recorded. Having been detained on a journey, and hospitably entertained at the house of the Pilani family, he secretly painted, during his stay, a picture of the family of Darius, consisting of 20 figures as large as life; and leaving the canvas rolled up under his bed, he informed his hosts that he had left something behind him towards paying his expenses. This artific, whose superior merit has been universally acknowledged, died of a fever at Venice, in 1588, at the age of 58 years, and was buried in the church of St. Sebastian, which he had previously decorated by his own hand. The pictures of this master were rendered singularly beautiful by the excellence of their colouring, by the magic effects of light and shade, and by the grace and harmony of composition. But in order to produce this kind of beauty, which charmed the eye, he sacrificed much expression, correctness of drawing, propriety of costume, and other qualities which satisfy the mature judgment. Of his pictures, which are dispersed all over Europe, some of the principal are in the palace of St. Mark at Venice, and in the churches of that city, and of others in the north of Italy. Among his most celebrated pieces, are the Four Banquets; and of these, the Marriage at Cana, once in the refectory of the convent of St. George at Venice, now in the Louvre, containing of at least 150 figures, is reckoned one of the most capital performances in Europe. Many of his works have been engraved by the principal artists of their time. For his amusements he etched some few plates, which flew the hand of the master. Among these are the Adoration of the Magy, and Two Saints, fleeing." His sons, Carletto and Gabriel, acquired, also, eminence as painters. Carletto was born at Venice, in 1570; and possessed a genius, which, under the instruction of his father, manifested itself betimes, and arrived at an early maturity; so that he promised to have equalled, if not to have exceeded his father. But by incessant application, he impaired his constitution, and died in 1596, at the age of 26 years.

Gabriel was born at Venice in 1568, and having talents inferior to those of his brother, he turned his attention to commerce. He died 1651.

These brothers finished works, which had been left imperfect by their fathers; and several pictures of their own design and execution have been ascribed to him; nor can some of them be easily distinguished from those of this great master. They were ascribed by their uncle Benedetto, or Benedetto, who was born at Verona in 1538, and died in 1595. He ressembled his brother Paolo in his style of painting, but his peculiar excellence consisted in the architectural figures, with which he enriched the compositions of his brother. At Venice there are several paintings, designed and executed by himself, which are much admired. D'Argenville. Pilkington. Strutt.

CAGLIARI, or CALARI, in Geography, a sea-port city, and capital of the island of Sardinia, is situated in the northern part of the island, on the declivity of a hill, and has a large and secure harbour, screened by a small island called "Pietra Laidia"; and defended with a castle and fortifications. It is large and populous, the number of inhabitants amounting to about 50,000, and carries on a considerable commerce. It is the seat of an archbishop, and the residence of a vicar; and contains five churches besides the cathedral, and 25 convents. In 1708, it surrendered, upon an attack of the British fleet, to the emperor Charles VI.; but in 1717 it was retaken by the Spaniards, and about two years afterwards ceded to the duke of Savoy in lieu of Sicily, who obtained the title of king of Sardinia. N. lat. 39° 12'. E. long. 9° 14'.
CAGNACCI, in Biography. See Guido.
CAGNANO, in Geography, a town of the island of Corfica; 14 miles N. of Balia.
CAGNANO is also a town of Italy, in the kingdom of Naples, and province of Abruzzi Ultra; 3 miles N.N.W. of Aquila.
CAGNETE, Canete, or Guarco, a town of South America, in Peru, and capital of a jurisdiction of the same name, in the archbishopric of Lima, near the sea-coast; 80 miles S.E. of Lima. S. lat. 19° 40'. W. long. 73°.
CAGNETE, or Canete, a district or jurisdiction of South America, in Peru, beginning at the distance of 6 leagues S. from Lima, and extending along the coast in the same district above 30 leagues. The temperature of the air in this district is the same with that in the valleys of Lima; and the country, being watered by a large river, and other lesser streams, produces great quantities of wheat and maize. The lands are very much planted with cane, which yield an excellent sugar. In the vicinity of Chilca, situated above 10 leagues from Lima, is found salt-petre, of which gunpowder is made in that city. It has also a good fishery, which affords a comfortable subsistence to the Indian inhabitants of the town, particularly those situated near the sea-coast; together with plenty of fruits, pulses, and poultry; whence a large trade is carried on between this jurisdiction and Lima.
CAGNI. See Boufflers.
CAGNICOURT, a town of France, in the department of the Waits of Calais, and district of Baume; 3 leagues N.N.E. of it.
CAGNO, a town of Germany, in the country of Tyrol; 10 miles S.W. of Bolzano.
CAGNOLU, in Ichthyology. See Squalus Zygana.
CAGOTS, in Geography, a name distinguishing a singular class of people, who inhabit some of the valleys contiguous to the Pyrenees. M. Ramond de Carbonniere in his "Observations faites dans les Pyrenees," &c. £vo. Paris, 1789, adopts the opinion of M. de Marca, that this miserable race, whose imbecility of mind and deformity of person have so frequently engaged the attention, and exercised the ingenuity, of philosophical travellers, are the descendants of the Goths and Visigoths, who were exterminated and dispersed on account of their Arian principles. These heretics were treated with cruelty by the Franks, and driven from the borders of the Loire and the Sevre to the most desolate places. After the destruction of the kingdom of the Visigoths by the children of Clovis, those who were degenerated by intermixture, and were not able to follow the warlike Goths into Spain, sunk into contempt on account of their religious tenets. They were excommunicated from the church, and refused Christian burial. They were branded with the names of Cagots, Calas, and Cagnos, which signify, according to Gebelin, "polluted" and "infected." They became leprous, he says, by being, through successive generations, exposed to the most extreme poverty, and by being proscribed from intermarriages with any other families than their own. "Their return to the bosom of the church was not sufficient to remove the stigma of their cast: they ceased from being Arians, without ceasing to be leprous; and they afterwards ceased to be leprous, without being freed from all the evils engendered by a vitiated state of the fluids."
CAGUA, a district of Terra Firma, with a town of the same name, situated in the southern part of New Granada. The town lies in N. lat. 3°. W. long. 70°.

CAGUANABO, a town of the island of Cuba; 60 mile N.N.E. of St. Yago.
CAGUANICO, a town of the island of Cuba; 55 miles N.N.E. of St. Yago.
CAGUATUS, Marsilius, in Biography, born at Verona, about the middle of the 16th century, was educated at Padua, where he acquired so much reputation, that he was invited to teach medicine at Rome. He continued to reside there to the time of his death, in 1710. He was well read in the ancient Greek fathers of medicine, and employed much of his time in commenting on their works, and correcting many errors which time had introduced, often, Haller thinks, happily enough. His works are "Variorum Observationum Libri duo, cum disputatione de ordine ciborum Libri quattuor," Rome, 1731. £vo.; containing principally of critical observations on the works of the ancients. In one case, he had seen the bones of a human fetus which had been voided by the amns. "De Morti, Caussa Partum." He contends, contrary to an opinion held by some anatomists, that the utra pubis do not separate in parturition. "De Sanitate tuenda," 1791. £vo. "De Aetis Romani Salubritate, de Thiberis Inundatione, et de Epidemia Romana, seu de Popularib Epistolis quae anno 1592, et de altera quae anno 1593, orta fuit," 1799. £vo. He contends that the air of Rome is not unhealthy, and modern Rome more healthy than the ancient; that Rome abounds with persons of great age; that though the Tiber frequently overflowed its banks, he had never known any epidemic follow from that circumstance. Haller. Bib. Bot. Med. et Anatom.
CAGU! Minor, in Zoology, the name given by Marcgrave to the species of ape described by later scientific writers under that of Simia scudiet. Edwards after Marcgrave also calls it cagni minor, or fasciin. It is the thirteenth ape of Pennant.
CAGU! Major Brachilephus of Marcgrave is the Simia orbiculata of Gmelin, and little lion monkey of Edwards.
CAGURRIA, in Geography, a town of Spain, in Navarre, situated on a small river, which almost surrounds it, and discharges itself into the Ebro; 6 leagues N.W. of Calahorra.
CAHA, a town of Perdia, in the province of Irak; 40 miles N.E. of Amada.
CAHAIGUES, James, in Biography, born at Caen in Normandy, about the middle of the 17th century, applied early to the study of medicine, in which he took the degree of doctor at the university of Caen, in 1680. In 1683, he published "Eligiorum Civium Cademinentum Centuria," reprinted in 1699, 4to.; "Brevis Facilissimum Methodus curandarum Fœbrorum," Cadom, 1616. £vo. "Brevis Facilissimus Methodus curandorum Capitis Aetet."
CAHIER, or Cahie, in Geography, a small neat port and market town of the county of Tipperary, province of Munster, Ireland, where there is a bridge over the river Suir, and near it, on an island in the river, is a castle, formerly of great strength, which was twice taken, first by Sir George Carew in the reign of queen Elizabeth, and afterwards by Oliver Cromwell. On the bank of the river, opposite to the town, are the ruins of Cahier abbey, which was founded in the reign of king John. Distance S.W. from Dublin 85 Irish miles. N. lat. 52° 22' 32". W. long. 7° 54'.
CAHIR is also the name of a fishing village in the county of Kerry, Ireland, on the coast opposite to Valentia Island, which
which was formerly much frequented in time of war, because no French privateer ever landed there to plunder, as was usual on other parts of the coast; a privilege said to have been procured by the Roman Catholic bishop of the see from the French monarch, Smith's Kerry.

CAIRE, a small island in the Atlantic ocean, on the west coast of the county of Mayo, Ireland, a little south of the entrance into Clew bay. N. lat. 53° 44', W. long. 9° 53'.

CAHIRICONRE, a high mountain, south of Tralee, in the county of Kerry, Ireland, the name of which is supposed to signify the fount of King Con. On the top of it is a circle of mafly stones, laid one on the other, in the manner of a Danish intrenchment, several of them being from eight to ten cubical feet, but all very rude. Different opinions have been entertained respecting this and other ancient monuments of the same kind. Some suppose them to be of saxon origin, and designed for religious purposes in honour of the sun; while others maintain that they are of northern origin, and were monuments of some great action performed near the place, or perhaps a sepulchral trophy raised over some eminent person. Mr. Pinkerton, in his account of Stonehenge, supposes them to have been introduced by the Bege or Goths, whom he considers as the Irish Ptolemy. These people used them, he says, as circles of judgment, or solemn places where courts were held, of all kinds and dignities, from the national council down to the baronial court, or that of a common proprietor of land, for adjusting disputes between his vassals and slaves. According to this account they are of greater antiquity than the Danes, though used by this people. The common people, unable to conceive how human strength could possibly raise stones of such a prodigious weight to the summit of a steep mountain above 2000 feet high, get over the difficulty by supposing it to have been the work and labour of a giant. See Stonehenge. Smith's Kerry. Codettana Hibernica. Ledwich's Antiquities. Pinkerton's Geography.

CAHILLO, in Ichthyology, a name given by some old writers to the fish they also called lupus marinus, or wolf-fish, anarbebas lupus of Linnaeus.

CAHOKIA, in Geography, a settlement in the north-western territory of America, north of Kaskaflasias, which see.

CAHORS, a considerable town of France, before the revolution the capital of Quercy, and seat of a bishop, now the principal place of a district in the department of the Lot, situate in a vale between mountains on the bank of the river Lot. One part of the town seems to lean against the steep side of a mountain; the other is seated in a small plain, watered by the meandering stream of the river, and finely cultivated, with its corn-fields, gardens, and fruit-trees, particularly the almond. The town is irregularly built, and its streets are narrow. The cathedral church is distinguished by its large cupola, which mull in part have been an ancient Roman work; the remains also of a Roman amphitheatre and aqueduct are seen in this place. The number of inhabitants in the north and south districts of the town is 11,726, in the north canton 10,162, and in the south 8,564; the territory comprehends 143 1/2 kilometres and 10 communes. The lands round the town are very fertile; and the wine of this place has high reputation, and is exported from Bordeaux as an article of commerce. It is produced by dwarf or ground vines, on steep mountains, and holds a high rank among the red wines of France. This town is fortified and surrounded with thick walls; but it was taken by assault by Henry IV. in 1580, when mortars are said to have been first used. N. lat. 44° 27', E. long. 1° 6'.

CAHUSAC, Louis de, in Biography, was born at Montauban, and having finished his studies at Toulouse, was admitted an advocate. On his return to Montauban, he obtained the post of secretary of the intendance. He afterwards removed to Paris, and became secretary to the count de Clermont, and after attending him in the campaign of 1743, he devoted himself to literature, and particularly to dramatic compositions. He died at Paris in June 1759. His temper was reticent, lively, and arrogant; and his facility with regard to his reputation was so acute, that it is said to have produced a degree of derangement, which probably shortened his days. His publications were "Griggi," a romance, 12mo.; "The History of the Dance, ancient and modern," 3 vols. 12mo.; "Pharamond," written in 1726, and the tragedy of the "Earl of Warwick," two comedies, viz. "Zeneide," and the "Algerine," the "Fellivities of Polyhymnia," and of "Hymen," "Zais," "Nais," "Zorastre," the "Birth of Ophris," and "Anacreon," all operas; besides the "Loves of Tempe," which is also ascribed to him. Biog. Dict.

CAHUSAC, in Geography, a town of France, in the department of the Lot and Garonne, and district of Lauzun, and 5 miles E.N.E. from it.

CAHUSAC pur Verre, a town of France, in the department of the Tarn, and district of Gaillac, and 2 leagues N. of it.

CAHY, in Commerce, a dry meafure for corn, used in some parts of Spain, particularly at Seville and Cadiz. It is near a bushel of our meafure.

CAl, in Zoology. The Linnean Simia Midas is described under this name by Ray in his History of Quadrupeds.

CAJA, in Entomology, the species of Phaena, known in England by the name of the garden tiger moth. The anterior wings are whitish, with large fulcous spots: posterior pair red with black spots. Donov. Brit. Inf.

Caja, in Geography, a river of Portugal, which runs into the Guadiana, 7 miles E. of Elvas.

Caja, in Ornithology. Buffon gives this name to the hooped Parrot, Psittacus pileatus.

Caja, in the Turkish Military Orders, an officer serving in the post of a deputy or reward, and acting for the body of the janizaries.

CAIAC, in Geography, a town of Persia, in the province of Irak; 64 miles W.S.W. of Iphahan.

CAJANA, or Caianeborg, a town of Sweden in a lehn or district of the same name, and capital of Earl Bodin, seated on a lake near the borders of Lapland, and almost surrounded by the river Pyha, which forms a tremendous cataract in the neighbourhood. The district of which it is a part is about 60 leagues long and 16 broad. It was granted as a barony, in 1650, to Peter Brahe, under the title of the sef of Cajana. N. lat. 64° 15' 30'. E. long. 15° 50' 47'.

CAIANI, in Eccelesiological Antiquity, a sort of heretics, thus denominated from one Caius of Alexandria, their leader, otherwise denominated Aphantodocetse. The same name is sometimes also given to the sect of Cainians or Cainites.

CAIAON, in Geography, a kingdom of the island of Java.

CAIAPHAS, in Scripture History, the high priest of the Jews, at the time of our Saviour's crucifixion. He succeeded Simon, the son of Canithus, A.M. 4019, and after possessing this dignity nine years, till the year A.M. 4038, was deposed by Vitellus, governor of Syria, and the
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the dignity devolved upon Jonathan, the son of Ananus. It appears that Caiaphas was high priest all the time that Pilate was in Judea. Some have thought, that the phrase, "being high priest that same year" (John, x. 49.) implies, that St. John supposed the high priesthood was annual. And on this account, they have been disposed to charge him with a great mistake; for Pontius Pilate was governor of Judea 16 years, and Caiaphas was put into the priesthood by Valerius Gratus, the predecessor of Pilate, and continued in it, till after Pilate's removal. But the phrase "that year," as it should have been rendered, and not "that same year," denotes no more than "at that time." St. John, therefore, merely says, that Caiaphas was high-priest at that time. It is added, that "being high-priest that year he prophesied." By prophesying we may understand his declaring the event; which it was in a peculiar manner the office of the priest to do, when he was inquired of, or when God was inquired of him, concerning any important matter under deliberation. Lardner's works, vol. i. p. 387, &c.

CAJARE, in Geography, a town of France, in the department of the Lot, and chief place of a canton, in the district of Figeac; 51 leagues E. of Cahors. The town contains 1775 and the canton 8126 inhabitants; the territory includes 207.5 square kilometres and 14 communes.

CAIATUS, in Botany, (Rumph. amb. iv. 64. t. 24.).

See Aeschynomena indica.

CAIACACOS, in Geography, a town of the island of Cuba; 40 miles W.S.W. of Bayamo.

CAJARDO, a town of Naples, in the country of Lavora, the seat of a bishop, suffragan of Capua, 8 miles N.E. of it.

CAIC, CAIQUE, CAICA, in Sea-language, is used to denote the skiff, or oolop, belonging to a galley.

The Caiacks give the same name, caic, to a small kind of bark used in the navigation of the Black Sea. It is equipped with forty or fifty men, all soldiers; their employment is a kind of piracy. The Turks have also a sort of caiacs, which serve as conveying by ferries.

The Caics, or Caiques, that navigate the sea of Marmora, are generally manned by two or three rowsers; and they are incessantly employed in crossing the harbour, and proceeding with celebrity to all the villages of the Bosphorus, to Scutari, to Prince's islands, and to every place in the environs. These caiques are long narrow boats, extremely light, equipped with one, two, or three pairs of oars, felled with four. They carry one or two, and even three fails, which are set only in fair weather, or when the wind is not too strong. They are not provided with ballast, and are so buoyant that a somewhat stiff breeze would over turn them, if the boatman did not take care to let go the sheet on the main left danger, and to throw the boat up in the wind by swinging the helm. These caiques are so numerous, and they divide the water with such velocity, that in some caiacs the utmost skill of the rowers cannot prevent their running foul of each other, and one of the two from being overet, especially in bad weather. Such accidents, when they occur, are little regarded. They are no lies swiftly in falling than elegant in their form. In two hours, with a light breeze, they will sail from Constan tinople to Prince's island, distant from 10 to 12 miles; and notwithstanding contrary wind and current, three rowsers never take more time for reaching Bucyl-Dere, distant 18 miles. The Caiques belonging to the Sultan are remarkable for their size, their gilding, their elegance, and the number and dexterity of the rowsers; they carry 14 pairs of oars, and are manned by 50 boatmen, dressed in white, the boatmen's-bachi being the cockswain, or steersman. The caique of the grand vizier has 12 pairs of oars; those of the principal officers of the Porte, and of the ambassadors of foreign powers, have seven pairs each. In these large caiques one man is required for each oar; while those of private perfns are sufficiently narrow for a single man to make use of two oars at a time. When the sultan in summer visits his different palaces on the Black sea, his caique is distinguished by a beautiful crimson awing, spread towards the stern; and he is preceded and followed by a number of others, in which are his principal officers.

CAICANDROS, or CAICANDRUS, in Ancient Geography, an island of the Parian gulf, 400 fathoms distant from Caeca, and before a place named Ilan, according to the journal of the navigation of Nearchus. It is mentioned also by Arrian. It was a small place and uninhabited.

CAICINUS, a river of Italy, in Brutum, near the Epizephryian Lucrians. It was near this river that the Athenians invaded the territory of the Lucrians.

CAICO, in Geography, a town of the island of Cuba; 25 miles S.E. of Bayamo.

CAICOS, or CAZOS, a chaffer of small islands or rocks, called Little and Great CAICOS, lying between St. Domingo, and the Bahama islands. N. lat. 21° 14' to 22° 23'; W. long. 71° 40' to 71° 50'.

CAICUS, in Entomology, a species of Sphinx that inhabits Surinam. The wings are fuscous; posterior pair rufous streaked with black; abdomen cincereous with black rings.

CAICUS, in Ancient Geography, a small river of Asia Minor, in Myria, which passed near the frontiers of Lydia, and uniting with other streams, discharged itself into the sea near Elea; supposed to be the present Gurnabli.

CAIDBEIA, in Botany, (Forb. Egypt.) See FOROCHLEIA.

CAJELI, or CAGELY, in Geography, a bay at the north-east end of the island of Bouro, where the Dutch have a fortress.

CAJELI, a country of Cilices in India, lying on the western shore of the island, towards the north, between Mandrar Mamoeck and Sidenie, which is the southermost place belonging to the government of Ternate. By the treaty of Boni, this country was added to the king of Ternate; but the government at Batavia afterwards issued orders that it should be considered as belonging to the government of Macaeer. It formerly yielded much cocoa-nut oil; but since the year 1730, it has been too much ravaged, first by the internal difensions between their own nobles, and afterwards by the Mandarares, that all the cocoa-nut trees were felled; and the land lies now almost uncultivated and desert, and is subject, for the greatest part, to the Mandarares.

CAJEPUT OIL, Oleum Volatile Melaleuca. This essential oil is prepared from the dried leaves of the Melaleuca Leucadendron, a tree which grows abundantly in many of the Molucca islands. The oil is brought over in considerable quantity from Ambon, Batavia, and other Dutch settlements.

Cajepot oil is a very limpid fluid with a slight green tinge, lighter than water, of a very penetrating and peculiar flavour, somewhat resembling a mixture of ether and camphor, totally evaporable in a moderate temperature when exposed to air, very inflammable and burning without leaving any residue. In chemical qualities it resembles the other essential oils.

To the taste, it is highly acid and stimulating, and it appears to possess valuable medicinal properties as a general stimulant.
Amulut and antispasmody. Hence it is warmly recommended in flatulent colic, paralytic chorea, hooping cough, and convulsive disorders in general. The dose is from one to six drops. It is also of considerable use externally applied for the relief of tooth-ache, rheumatic pains, lprains, and the like. This oil was first introduced into the Amsterdam Pharmacopoeia about the year 1726, and is retained in the last edition of that of Edinburgh.

Infects have a great aversion from this oil, the vapour of which appears to intoxicate and kill them. A peculiar property of cajuput, in which it excels other essential oils, is, that it is a perfect solvent of castor-oil, from which a perfect drying varnish may be made in the manner described under that article.

Caiet, or CAYET, Peter Victor Palma, in Biography, was born in 1523, of poor Protestant parents, at Montelich in Tournai; and after pursuing his theological studies at Geneva, became a domestic in the house of Calvin, and afterwards a minister. However, he left his church to follow the court, and was appointed chaplain to Catherine, sister of Henry IV.; but being addicted to alchemy, he was calumniated as a magician, and charged with publishing a book in favour of the establishment of public fews; and deposed from his ministerial function by a synod. Thus disgraced, he abjured Protestantism, in 1595, and was cordially received by the Roman Catholics, among whom he was ordained priest at the college of Navarre, and made doctor in theology, and appointed royal professor of Hebrew. His zeal, as a new convert, led him to attack the sect he had abandoned in several controversial writings, and in a dispute with Du Moulin. But his principal reputation was founded on his historical compilations. In 1598 he published a relation of the recent war between the Turks and Hungarians; and, in 1605, his "Septenary Chronology," from the peace of Vervins, in 1598, to 1603, to which he afterwards added the history of the nine years' war, terminated at this peace, in his "Novenary Chronology," printed in 1608. He also wrote two works in Latin; one intitled, "Concilium plumin de componendo Religionis Diffludio," and the other, "Instructions in the four principal Oriental Languages." He died in 1610. Gen. Diet.

Cajeta, in Entomology, the name under which Cramer figures the Gmelinian Noctua Follomica, which he described.

Cajeta, in Ancient Geography, a sea port town of Italy in Latium, now Geta.

Cajetan, Cardinal, in Biography, so called from the place of his nativity, Cajeta, (his proper name being Thomas de Vio,) was born in 1469, and entered into the order of Dominicans, among whom he was distinguished for the acuteness of his understanding and his learning. The chapter of his order conferred upon him the degree of doctor in 1494; and after having taught philosophy at Rome and at Paris, he was chosen general of his order in 1508, and raised to the dignity of cardinal in 1517, by Leo X. In the following year he was deposed as legate to the emperor, for promoting the war against the Turks and opposing the Lutheran heresy. At this time he held three conferences with Luther at Augsburg, in the conduct of which he behaved in a manner so imprudent and imperious as to give offence at the court of Rome. Instead of recurring to argument, he used the mere language of authority, and in an overbearing tone infiltrated on the reformer's giving up his opinions and submitting respectfully to the judgment of the Roman pontiff. Luther's temper could not brook such treatment, and of course the breach was widened by these conferences. Pope Adrian VI. sent him as his legate to Hungary, and upon his return he was promoted to the see of his native city. When Rome was sacked in 1527, he fell into the hands of the soldiers, by whom he was treated with great indignity, and they inflicted on a large sum for his ransom. He closed his life at Rome, where he was admirably employed in the study of the Scriptures, in 1544. His earlier works were "Commentaries upon Aristotle," and upon the "Summa Theologica" of Aquinas. In his "Tractatus de Comparatione Authoritatis Papae et Concili," he alleges many frivolous and groundless arguments in favour of the absolute authority of the popes as successors to St. Peter. His theological treatises discuss the most important tenets of the Roman Catholic religion; and in his illustration of the doctrine of indulgences he maintains that they are valid as an abridgment from the penalties enjoined by the church, but that their benefits extend to souls departed merely in the way of suffrage or intercession. With respect to indulgences he contended, in his conference with Luther, that "one drop of Christ's blood being sufficient to redeem the whole human race, the remaining quantity that was shed in the garden and upon the cross, was left as a legacy to the church, to be a treasure from whence indulgences were to be drawn and administered by the Roman pontiffs."

Cajetan's most considerable work is his "Commentary upon the Scriptures," comprehending the Old and New Testament, except the Song of Solomon, the Prophets, and the book of Revelation. In this performance, he restricted himself to the literal sense of the words Scripture in the original languages, without regarding the explications of the fathers. Ignorant of the Hebrew, he employed a Jew and a Christian to furnish him with the exact import of the words according to the letter and grammar, without troubling themselves to give a sense of their own when no sense appeared. In the New Testament he chiefly followed the version of Erasmus. By deferring the vulgar Latin translation, and disregarding the fathers, he incurred the censure of some of his own communion; and, in 1544, the university of Paris inflicted a decree, condemning his work, as containing false, impious, and even heretical propositions. Some more candid Catholics have vindicated him, though he is justly charged with too perfunctorily adhering to the literal version of the rabbins. Many editions of his works have appeared. The whole of the Scriptures were printed at Lyons, in 1539, in 5 vols. fol. Dupin's E. H. 16th century, Molinm's E. H. vol. iv.

Cai-Fong, in Geography. See Kai-Fong.

Cailar, a town of France, in the department of the Herault, and chief place of a canton, in the district of Lodève. The town contains 722, and the canton 3127 inhabitants: the territory comprehends 255 square kilometres, and 8 communes.

Cailhaud, a town of France, in the department of the Aude, and district of Limoux; 3 leagues S.W. of Carcassonne.

Callie, Nicholas Lewis de la, in Biography, an eminent mathematician and philosopher, was born at Rumigny, in the dioce of Rheims, March the 15th, 1712. The amusements of his father, after withdrawing from the army, in mathematical and mechanical philosophy, led the son, at an early period, to form an attachment to mechanics. Having left school in 1729, he prosecuted his studies at Paris, and applied particularly to theology, in the college of Navarre, with an intention of becoming an ecclesiastic. But his inclination to astronomy diverted his purpose; and, by the friendship of the celebrated Cassini, to whom he was introduced,
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introduced, he obtained an appointment in the observatory; and under the influence of this excellent patron, his natural genius had favourable opportunities for cultivation and exercise, and he acquired the reputation of an able astronomer. In 1739 he was connected with M. Caillet de Thury, in verifying the meridian through the whole extent of France; and in the same year he was appointed professor of Mathematics in the college of Mazarine. In 1741 he was admitted into the Academy of Sciences, and from this year to 1763 inclusive, he enriched every volume of the memoirs with some valuable paper. He also published, at different periods, some useful treatises on geometry, astronomy, mechanics, and optics. He also computed all the eclipses of the sun and moon, from the commencement of the Christian era, which were printed in the work intituled, "L'Art de verifier les Dates," Paris, 1756, 4to. He also composed a volume of "Almanach Ephemerides," for 10 years, from 1745 to 1755; another from 1755 to 1765; and a third, from 1765 to 1775. His excellent work, intituled, "Almanach Fundamenta, novissimi Solis et Stellarum Observationibus stabiles," was published at Paris in 1739; and in 1760 appeared his correct solar tables, under the title of "Tabulae solares, quas ex novissimis observationibus deduxit," N. L. de la Caille.

Having completed a series of seven years' observations in the observatory at the Mazarine college, he formed a project, which was approved by the French court, of observing the southern stars at the Cape of Good Hope; and proceeded upon this expedition in 1750. In the space of two years he observed the places of about 10,000 stars in the southern hemisphere, invisible in our latitude; and determined several other important elements, such as the parallaxes of the sun and moon, and of some of the planets, the obliquity of the plane of the ecliptic, the quantities of refraction, &c. Previous to his return he engaged in the arduous attempt of estimating the dimensions of the earth by measurement, at the southern parallels, as other astronomers had done near the equator, and in northern latitudes, with a view of deciding whether the former corresponded with the latter. The results of his labours were satisfactory; for having determined a distance of 430814 feet from a place called "Klip-Fontyn" to the "Cape," by means of a base of 35862 feet, three times actually measured, he discovered an unknown secret of nature, viz. that the radius of the parallels in southern latitude are not of the same length with those of the corresponding parallels in north latitude. He found that a degree on the meridian in 32° S. lat. contains 3422 2 Paris feet. In conformity to orders from the court of Versailles, he also determined the situation of the Isles of France and Bourbon. During his abode at the Cape he likewise made some curious meteorological observations; and he particularly observed, that when the south-eaft wind blows, which is often the case, the stars appear larger and seem to dance; that the moon has an undulating tremor; and that the planets have a sort of beardlike comets.

Upon his return to France, after an absence of 4 years, he replied to some criticisms published by the celebrated Euler, relating to the meridian: he afterwards settled the results of the comparison of his own observations, respecting the parallels, with those of other astronomers. Accordingly, he fixed that of the sun at 50°; that of the moon at 50° 56', that of Mars, in his opposition, at 56°, and that of Venus at 38°. He also settled the laws, by which astronomical refractions are varied by the different density or rarity of the air, by heat or cold, and by dryness or moisture. And he was one of the first promoters of the lunar observations for determining the longitude at sea. In consequence of the reputation which he had thus acquired and established, he was elected a member of most of the academies and societies in Europe: as London, Bologna, Peterburgh, Berlin, Stockholm, and Gottenburg.

Independently of his own publications, he edited the memoirs of Father Feuille, at the Canaries; the journal of the voyage of M. de Chazelle, to the Levant; the manuscript collection of observations of William, Landgrave of Heffe, and Bouger's tracts on the gradation of light.

Although he was attacked in 1760 with a feverish fit of the gout, the energy of his mind was unimpaired; so that besides pursuing his course of studies, he sketched out the plan of a new and large work, proposed to be "The History of Astronomy through all Ages, with a Comparison of the ancient and modern Observations, and the Construction and Use of the Instruments employed in working them." In the year 1761 his constitution gradually declined, without interrupting his studies, in which he persevered to the last: and they only terminated with his life, March 21st, 1762. Mem. of the Paris Academy for 1762.

CAILLE, in Ornithology, among the French, synonymous with the English word quail, as for example, "caille de la Louisiane" of Buffon, the Louisiana quail of Latham; "caille de la Chine" of Buffon, the Chinese quail of Edwards; "caille de l'isle de Lucon" of Sonnet, the Luzonian quail of Latham, &c.

CAILLERE, la, in Geography, a town of France, in the department of the Vendée. 45 leagues N.E. of Lucon.

CAILLOT, in Biography, a most pleasing, theatrical French singer, to the natives of other countries, that France has produced. He continued, during many years, the favourite actor and singer of the comic opera at Paris. His voice, which he could make a base, tenor, or counter-tenor at pleasure, was sweet and flexible. He was an excellent actor, and, in all respects, a most interesting, entertaining, and admirable performer. He first appeared in the part of Colas, in Ninette à la Cour, in 1760.

CAILLY, in Geography, a town in France, in the department of the Lower Seine, and district of Rouen; 32 leagues N.N.E. of Rouen.

CAULO, a small islad in the gulph of Perhia, 80 leagues W. of Ormus.

CAIMACAN, or Caimacan, a dignity in the Ottoman empire, answering to that of lieutenant, or vicar, among us. The word is composed of the two Arabic words, "Caim macan," q. d. he who holds the place, or discharges the functions of another.

There are usually two caimacans: one resides at Constantinople, who is the governor thereof: the other attends the grand vizir, in quality of his lieutenant. Sometimes there are three caimacans: one constantly attending the grand vizir, another the grand vizir, and a third constantly at Constantinople, who examines affairs of policy, and regulates them in great measure. The caimacan that attends the vizir, only officiates when at a distance from the grand vizir; his function ceasing, when the vizir is with the sultan. The caimacan of the vizir is his secretary of state, and the first minister of his council. The caimacan is properly the substitute of the grand vizir, appointed by the sultan, when the latter is absent himself in order to take command of the army. The caimacan discharges his functions, invested with the same authority, enjoys the same rights, but not the same revenues; his salary is fixed, and the emoluments of the place belong to the vizir, to whom the caimacan renders an account of them. It generally a pacha or bashaw.
Cain, in Geography. See Caipman.

Cainmen. See Caipmen and Hiera.

Cain, derived from Γενις, to acquire, and denoting acquisition or possession, in Scripture History, the eldest son of the progenitors of the human race; Adam and Eve, was born towards the end of the first year of the world, B. C. 4003. From the concise history of Cain that occurs in Genesis, ch. iv. we learn, that he devoted himself to husbandry, and his brother Abel, to the keeping of sheep; that when they brought their respective offerings to God, that of Abel was accepted, and that of Cain rejected; that this preference enraged Cain, exciting in his mind jealousy and envy of his brother; and that the indulgence of these wicked passions at length terminated in the murder of his brother. As a punishment of this atrocious crime, God condemned him to be a fugitive and vagabond on earth, and to till an ungrateful soil, which should not recompense his labour with the plenty and incares he had before experienced. Nevertheless he set a mark upon him, or gave him a sign, that none might take away his life in his wanderings. Many ridiculous conjectures have been made both by Jews and Christians concerning this mark. Some have supposed that God signified him with a brand in his forehead, to denote his being accursed; others, that he had a wild aspect and bloody eyes, which rolled in a horrid manner. The fathers, in general, apprehend, that he had a continual trembling of the body, so that he could hardly get his food to his mouth; and this opinion is favored by the LXX, which renders "a fugitive and a vagabond" (κύρος καί ἄστρος), lamenting and trembling. Others say, that wherever he went the earth shook under him; and others again intimate, that he had a horn growing out of his forehead, to warn people to avoid him; and others have indulged him with the sign of the crofs. Le Clerc imagines, that God ordered him to wear some distaffineshing garment, perhaps of some glaring colour, as a mark or sign upon him for his preservation. To these fanciful conjectures we may add a more probable opinion of Dr. Shuckford (Conn. vol. i. p. 8), who renders the words מְצֹא יַעַרְנָא יְהֵן as "God gave to Cain a sign," or token, probably by some apparent miracle, that he would providentially protect him; so that none that met him should kill him. In this sense the word מַעַרְנָא is used, when the rainbow is called the מַעַרְנָא, that is, the sign, or token, of the covenant which God made with Noah, affuring him that he would drown the world no more. (Gen. ix. 12-17.) See also Judg. vi. 17. Pfalm, lxxxvi. 17. Dr. Geddes (Crit. Rem. vol. i. p. 59.) translates the words above cited, "and the Lord gave a token of security to Cain," and he observes, that the original cannot admit of the common interpretation, as there is not a single passage in the Bible where מַעַרְנָא signifies a mark or brand let on one. It always denotes a sign, a token, a wonderful event; but never a mark. And although מַעַרְנָא signifies to place or set, it has often a meaning like that of מַעַרְנָא; and מַעַרְנָא is here equivalent to מַעַרְנָא, and such is its signification wherever it is connected with the word מַעַרְנָא.

Pr. lixv. 4. lxviii. 43. ev. 27. lix. 10.

Cain at length settled with his wife and family in the land of Nod, on the coaft of Eden, where he built a city, calling it after the name of his fons, Enoch. But Josephus says (Ant. l. 1. c. 2.) that instead of being reformed by the punishment inflicted on him, he became more wicked and violent, and headed a band of thieves, whom he taught to acquire riches by oppression and robbery. He is said to have corrupted and changed the simplicity and honesty of the world; and to have invented weights and measures. He was also the first who set bounds to the fields, and who built and fortified a city.

Cainman, the son of Enos, was born A. M. 1215, B. C. 3679, Enos being 90 years of age. Gen. v. 9. At the age of 70 he begat Mahaleb, and died at the age of 910 years, A. M. 1235, B. C. 2769.

Cain was also the fons of Arphaxad, and father of Salah, whose name does not occur either in the Samaritan or Hebrew text, nor in any of the ancient versions of Gen. xi. 12, &c. except the LXX; and hence it has been generally deemed an interpolation. The name, however, occurs in the genealogy of Chrift, Luke iii. 36, between Salah and Arphaxad. Dr. Jackson, in the first volume of his "Chronological Antiquities," labours hard to shew, that the reading of the LXX is the true original reading, and that it flowed in the original copies till after the Christian era. It must be acknowledged, that it is not easy to determine by what means it could have got into the Septuagint version, if it had not been found in their Hebrew copy; and it is certain, that it must have been in the copy used by St. Luke in forming his genealogy of Christ. It is not easy to conceive, how fuch an interpolation could have been made, or for what purpose; whereas its having been dropt out of the Hebrew text may be readily accounted for. On the other hand, the conformity of the Samaritan with the Hebrew copies, the silence of Josephus and Philo, and its omission in the chronological computations of Julius Africanus, Eusebius, and Tholusius, are urged as cogent proofs that the passage was not in the original copies of the Septuagint; and Grotius even afferts, that it was not to be found there before the 4th cent. But it may be asked, how came it to be inserted? To which it is replied, that it was foituted into St. Luke's gospel by some careless copyist from ver. 37, where it rightly occurs; and this interpolation, being transferred by other copyists, got imperceptibly into almost all the exemplars; and, on these exemplars, the copies of the LXX were next interpolated, in order to make them agree with the evangelist. This indeed, though not an impossible, is certainly a strange, rapid, and almost incredible process. For we find the fame interpolated Caipman in the Syriac, Vulgate, Arabic, and Ethiopic versions. Upon the whole there is reason for inclining to the opinion, that the comma in question flowed originally in the Septuagint version, and that Luke drew his genealogy from that version. After all, it is a point, in its connection with Biblical criticism, of no great moment, as the design of the evangelist was only to present us with the genealogy of Christ in its ascent to Adam, which is equally clear, whether we reckon Salah as the immediate descendant of Arphaxad, or whether we consider him as his grandson by Caipman. We must not, however, omit to mention, that the comma is wanting in three of Holme's MSS. in the Coptic (which indeed has Caipman, but makes him one of the fons of Shem, and places him after Aram), and Armenian, edited copies, and in one Arab. MS. Nor was it read by Theophilus; nor by Jerom in his Heb. Questions: where he expressly says, "Arphaxad genuit Sala."

Caipnites, or Caipniates, in Ecclesiastical History, a sect of ancient Gnostics, that sprang up towards the close of the second century, and paid extraordinary honours to those perfons represented in Scripture as the worft of mankind; so called from Cain, whom they esteemed their patriarch, and the chief object of their veneration. They held that Cain, Eilaw, Core, Dathan, and Abiram, and thofe of Sodom, were born of a moft eminent celestial virtue; that Abel,
Abel, on the contrary, was born of a virtue much less eminent: to Cain, and others of the same order, who, according to them, had a mighty knowledge of all things, they associated Judas, whom they held in so much esteem, that they had a book among them called the gospel of Judas. S. Epiphanius, who seems to have borrowed his account from Ireneus, relates, and at the same time refutes, their errors.

Ireneus and Epiphanius concur in their accounts of the gross errors and atrocious wickedness of these people. Dr. Lardner, however, disputes the credibility of their relation. The wickedness ascribed to them, he says, is incredible; as it is not easy to conceive, that any number of persons calling themselves Christians should honour Cain, Core, and Judas, and all who lie under just condemnation in the scriptures, both of the Old and New Testament, for the most notorious wickedness; and besides, the account is inconsistent with itself; for it is not possible that men should be extremely wicked in principle and practice, and at the same time he concerned about the salvation that is by the crofs of Christ, and honour Judas for his love of truth, and solicitude for the salvation of the world and the general good. Moreover, the rife of this denomination of Cainites may be accounted for another way, without making a particular feat. It might arise from the SETHIANS, those who called themselves by that name, and extolled their ancestor Seth. Could not well avoid declaiming against Cain; and they might sometimes lay of those in a different course of life from themselves, that they acted as if they were the children of Cain, who was of the evil one; and deemed to shew themselves kindred of Core, and Dathan, and even Judas himself. From this circumstance, or mode of speaking, some persons, who were diffused to multiply heresies, took occasion, or by mistake were led to talk of a sect under the denomination of Cainites.


CAINO, in Botany (Prof. Gen. 12. ic. 69.). See CHRYSOPHYLLUM CAINIO.

CAINO, also, the new court, in Antiquity, a civil court of justice at Athens, sometimes called παρείσχον παραγώ, which took cognizance of trifling matters, not exceeding in value one drachm. The judges in this court were the eleven magistrates. See ATHENS.

CAINS, in the island of Cauda, denote Greeks revolted, and retired to the Venetians, either at Suda or Spinna Longa; who, in time of war, burn, pilage, and commit all manner of cruelties on their ancient brethren under the Turks. When a Cain, or false brother, is taken, there is no mercy for him; they either impale him, or put him to the ganeche.

CAINUM, in Ancient Geography, a town of Asia, in Mesoopotamia. Not Imp.

CAJORI, in Geography, an isle near the mouth of the Ganges, at the bottom of the bay of Bengal, on the west side of the river.

CAJORI, CASHEW, or CASU. See ANACARDIUM.

CAIPHA, CAIPHA, or HEPHA, in Ancient Geography, a town at the foot of Mount Carmel, to the north, on the gulf of Poilemais; its ancient name was Sycaminos, or Portophyron. It was separated from Aco, or Polemais, by a large and beautiful harbour. The distance from Aco to Caipha, or Capha, by sea, is not above 15 miles; but it is twice as much by land.

CAIPA, in Geography, a river of South America, which runs into the Orinoko, or Orinoc. N. lat. 7° 16’. W. long. 65° 1'.

CAIRINA, in Ornithology, the Mufcovy duck, Anas Moschata, according to some authors.

CAIRN. See CArn.

CAIRNEY, in Geography, a town of Scotland, in Aber.

Vol. V.
CAIRO.

In the year 572 of the Hegira, A.D. 1176, he built the walls that encompassed Grand Cairo, and the citadel on Mount Mokattam. It is said to be about 224,000 cubits (3 leagues) in circumference; 1/4 league from north to south, or, according to Browne’s estimate, about 1700 yards, and 2 of a league from east to west. To the south-east and south of Grand Cairo is a ridge, called Mokattam, of the extensive chain, which runs along the course of the Nile to Upper Egypt, sometimes receding and leaving a plain about a league broad, and at other places opposing its barrier to the stream. This mountain is totally without verdure, and presents nothing to the eye but a dry land and insensibility calcined by the sun, which, of course, reflects a suffocating heat upon the town, whenever the northern wind does not blow. To the north of the city a plain extends to the Delta, which it resembles in flat and productions. Immediately under the mountain is the castle, now incapable of defense, though conceived of great strength, before the invention of artillery. As it is commanded by the neighbouring mountain, it could not furnish a battery from thence for two hours. It is more than a quarter of a league in circumference; and the sea-coast to it is by two very deep passages, cut out of the rock on which it stands, which lead to two gates, entwined to the guard of Alkins (no longer existing) and Janizaries. The former occupied the lower part of the fortres, and the others, the part called the citadel. The interior of the castle contains the palace of the sultans of Egypt, almost buried under their ruins. In one of the halls of these ruined buildings, exhibiting only some shattered remains of their ancient magnificence, is fabricated the rich carpeting, or embroidered cloth, which the Emir Hagg, or hey, who is prince of the caravan, carries every year to Mecca, for the purpose of covering the Caaba. The pacha’s apartments in the castle are mean and incommmodious; the audience-hall, where the divan is held three times a week, is a long room stained with the blood of the boys, sacrificed by order of the Porte. At the extremity of the place called “Cora Midan,” is the mint (the only one for Egypt), where they coin gold mabubis, and half-mabubis, the first being worth about 5 shillings each; and in copper washed with silver the small coins worth about a half-penny, called in Turkish “paras,” in Arabic “diwani,” “fudda,” or “madi;” and by European writers, “afrers,” and “medines.” On one side is the name of the reigning sultan, and on the reverse “Mifs,” and the date. The sequins are worth about 6s. 3d. English, and are made of the gold-dust brought from Abyssinia, which furnishes annually upwards of four millions. One of the most curious monuments in the castle is the “Well of Joseph,” hewn out of the rock, which, according to Pococke, was sunk about 700 years ago by a virth, called Joseph, by order of sultan Mahomed, son of Calaoun. The Egyptians ascribe it to Salah Edin. It is hardly necessary to observe, that fabulous tradition attributes it to Joseph the patriarch, whose palace this castle is said to have been. The well is 280 feet deep, and 42 in circumference. A hair-cake of gentle defiant winds round it. Within this well, at a considerable depth, is an esplanade with a bason; where oxen turn the wheel that raises the water from the bottom of the lower well; other oxen, placed above, raise it from this reservoir by the same mechanism. The water proceeds from the Nile, and, as it filters through a sand impregnated with salt and nitre, it is brackish. From the façade of the palace of Salah Edin, situate in the quarter of the Janizaries, and exiling only in ruins, the view extends over an immense horizon, including the whole extent of Grand Cairo, a multitude of mosques and minarets, the river, and on the side of Boulac, a rich country covered with her- vaets, and interpersed with groves of date-trees. Maftufat appears to the south-west, and the plains of the Said, or Upper Egypt, when overflowed by the Nile, present to view different hamlets, built on eminences, now converted into islands. The landscape is terminated by the pyramids, which, like the tops of mountains, lose themselves in the clouds. This isle commands the town, which forms an immense crescent around it. The streets of this famous city are narrow, crooked, and unpaved, intersected here and there with huge vacancies, which become lakes during the incresce of the Nile, and are gardens during the roll of the year. In the month of September they are passable by boats; but in April they are covered with flowers and verdure. The narrower of the streets, however, affords protection from the fierce effulgence of the meridian sun.

The “Chalige,” “Khlag,” or canal, which traverses Grand Cairo from north to south, and which is opened every year with great solemnity, takes its rise near Mafr El Artike, or Foslat, fills the lakes of the city, and leaves itself four leagues beyond it, in the “Borgue” (large piece of water,) of the pilgrims of Meccas. Mr. Shaw calls this the canal of Trajan. Pococke, and other modern writers, ascribe the construction of it to this emperor; and it has been commonly ascribed to “Amnis Trajanus.” Macrili says it was built by the emperor Adrian. Elmacin, cited by Savary, says, that this grand project was executed by Amron, who, having announced the capture of Alexandria to Omar, received instructions to cut a khlag, by which the produce of Egypt might be transported into the sea of Columbus (or Red Sea), and from thence to the port of Medina. It was called “the river of the prince of the faithful!” and boats, passing from Foslat, conveyed the commodities of Egypt into the Red Sea. Through the negligence of succeeding caliphs it has been choked up, so that it no longer conveys its waters to the Red Sea. By opening this important communication with the Red Sea, a project which engaged the attention of Bonaparte during his short abode in Egypt, Grand Cairo would again become the richest and most commercial capital in the world. For a further account of it, see Canal. At different feasons of the year, this canal, in its pallahage through Cairo, assumes various aspects; but its most permanent character is that of a dung-hill, or public receptacle for all kinds of offal. Before the rise of the Nile, it is cleaned, and becomes a street; it is then filled by the incresce of the river, and exhibits the appearance of a canal covered with boats. The kites thrice wildly over this canal; and the city is infested with its usual herds of dogs; while the turtle-doves, unloastened by men or children, breed in the houses, building their nests under the projecting beams.

The principal street of Cairo runs parallel to the “Chalige.” And on this canal are all the houses of the Europeans, notwithstanding the French that proceeds from it, and is said to produce the pestilence, to which, however, that order of men is leaft subject. Within the walls of Grand Cairo are more than 300 mosques, most of which have several minarets, or high fleeples, of a very light architecture, and surrounded with galleries. These elevated structures give to the city an agreeable variety, which would otherwise appear too uniform, on account of the flatness of the roofs, all of them being in the form of terraces; and they seem, also, to accommodate the public criers, who call the people to prayers at the hours prescribed by the Mahometan law. About 800 voices may be heard at the same instant in every quarter of the town, reminding the people of the seafons of devotion.
The population of Cairo consists of the Arabs, or lower classes of Mahometans, who form the body of the people; of the Coptic Christians, who are numerous; of Mamlukes, whom Browne estimates at no more than 10 or 12 thousand; of Greeks, Syrians, and Armenians; and of Magyars, from Tripos, Tunis, and Morocco, to whom an appropriate quarter is assigned, who are remarkable for industry and frugality, and are attracted hither by the great profits of trade. Besides those above recited, there are other Mahometans from Arabia Proper, and countries farther east. There are few Turks who are permanent inhabitants, but they occasionally resort hither on business, and return to Constantinople. Jews were once numerous; but they are now on the decrease. Exclusively of negro slaves, every house, there are blacks from Nubia, who act as porters at the gates of the rich, and sometimes fell eunuchs. It is not easy to calculate the precise amount of the whole population, because the Turks have no registers of births, deaths, or marriages; and if the number of houses were known, it would furnish no sufficient datum for computing the number of inhabitants, as in Egypt a large proportion of the people have no visible dwelling. Baron de Tott states the whole number at Cairo, and the adjacent port Boulac, on the authority of an officer of the customs, at 700,000; and Volney, admitting with Niebuhr, that the circumference of Cairo is 3 leagues, and comparing it with Paris, after proper allowances, estimates the number at 350,000. Browne thinks it cannot be less than 300,000. The women of Cairo are, in general, well-formed, but not tall. Those of the upper ranks are tolerably fair, in which quality, and fatness, confide the chief constituents of beauty in the Egyptian climate. They marry at 14 or 15, and at 20 are passed their prime. The Coptic women have interesting features, large black eyes, and a genteel form. See Copts.

Life at Grand Cairo, says Savary, is more a passive than an active existence: the body during nine months of the year being oppressed with excessive heat, and the mind partaking of this state of indolence. The Mamlukes breakfast before fun-rife, make their second meal at ten, and the third about five in the afternoon. They have plenty of animal food, and in the middle of the table appears a large dish of pilau, surrounded with small dishes of meat, fish, and fowl. Before they dres their meat, they cut it in small pieces. Their drink is water, which is brought from the Nile into the houses, and put into jars, called "hamman," previously rubbed in the inside with a kind of pale, made of bitter almonds. Thus preferred, it becomes quite clear and limpid in two hours. But it is often drank in its muddy state, without any ill effects. After the meal, coffee is served; and at the tables of the great thorough is introduced. A fermented liquor made of maize, millet, barley, or rice, pleasant to the palate, but in the hot season spoiling in the course of the day, is drank at Cairo, as well as in Said, in considerable quantities. The native Chritians mostly difil for themselves, from dates, a liquor called by the general name of "araki," it is also made from currants, or the small grapes imported from Cerigo.

The principal dishes to which the inhabitants of Cairo are subject, are defluxions in the eyes, sometimes terminating in blindness; the disorder called by the vulgar the "blest evil," or Neapolitan discale, as the syphilis has been sometimes improperly called, hydrocele, malignant fevers, and the plague.

Among the amusements of Cairo, we may mention its dancing girls, (see Alem) and rope-dancers; its chief games are chess, and Polish drafts; on solemn occasions, fire-works are exhibited; and on Friday, a mafs without the walls is frequented by the ladies as a pilgrimage of pleasure. Parties are also formed for failing in light boats, like Venetian gondolas, on the incres of the Nile.

Before the discovery of the passage to India by the Cape

of
of Good Hope, the commerce of Cairo was very extensive; but though it has since declined, this city may still be regarded as the metropolis of the trade of eastern Africa. As Tripoli chiefly possesses that of the west. From Yemen are imported coffee, oodours, gems, and some useful drugs; from Susat, and other neighbouring parts of India are obtained muslins, and various articles of cotton manufacture; from Ceylon, spices; and shawls from Calahire. A few slaves are brought from Abyssinia by the way of Jidda and Mecca. Caravans passing to and from Senaar, Darfur, and Fezzan, bring slaves, gold-dust, ivory, horns of the rhinoceros, ostrich feathers, guns, and drugs. See CARAVAN. From Tunis and Tripoli are brought oil, red caps, for which Tunis is famous, and fine flannel; from Syria arrive cotton, silk, soap, tobacco, and glass beads; from Constantinople they obtain white flaves, male and female, and all kinds of brass, copper, and iron manufactures. Numerous negro slaves pass from Cairo to the more northern Mahometan countries.

"Two powerful cauæs," says Volney, "have contributed to render Cairo the seat of an extensive commerce: the first of which is, that all the commodities consumed in Egypt are collected within the walls of that city; and all the persons of property, that is, the Mamelukes and lawyers, are assembled there, and draw thither their whole revenues, without making any return to the country from which they receive them. The second is the situation, which makes this city a centre of circulation, while, by the Red Sea, it corresponds with Arabia and India; by the Nile, with Abyssinia and the interior parts of Africa; and by the Mediterranean, with Europe and the empire of Turkey. Every year, a caravan from Abyssinia arrives at Cairo, and brings from 1000 to 1200 black flaves, as also elephants' teeth, gold-dust, ostrich feathers, guns, pumice-stones, and monkeys; while another, defined for Mecca, leaves the extremities of Morocco, and receiving pilgrims, even from the river of Senegal, coasts along the Mediterranean, collecting thofe of Algiers, Tripoli, and Tunis, and arrives by the defeat at Alexandria, consisting of not less than three or four thousand camels. From thence it proceeds to Cairo, where it joins the caravan of Egypt. They then jointly set out for Mecca, whence they return one hundred days after."—"The lading of these caravans consists in India rubs, shawls, guns, pearls, perfumes, and the coffee of Yemen."—"The same commodities arrive by another route at Suez, to which port the fouterly winds bring, in May, 26 or 28 fail of veffels from Djiedda. Small caravans also arrive from time to time from Damasæus, with silk and cotton rubs, oils, and dried fruits. Besides, "there are always some veffels in the road of Damietta, unloading hogheads of tobacco from Latakia, the consumption of which in Egypt is enormous. These veffels take rice in exchange, whilst others arrive successively at Alexandria, bringing clothing, arms, furs, fias, and wrought silk, from Constantinople. Veffels come likewise from Marfelles, Leghorn, and Venice, with cloths, cochineal, Lyons' rubs and faces, grocery, paper, iron, lead, Venetian fequins, and German dollars. All these articles conveyed by fea to Rosetta in barks called "djem," are first landed there, then remarked on the Nile, and sent to Cairo. From this account, it appears, that we need not hesitate to admit the report of the commissioner general of the eunuchs, who afferted, that in 1783, Cairo had traded to the amount of near 150 millions of livres, or fix millions 250 thousand pounds sterling.

Among the manufactures are fugar, of a bad quality, alf ammoniac, which is very good, glasses, lamps, salt-petre, coafe gun-powder, red and yellow leather, and linen cloth, made of the fine Egyptian flax. The only manufacture in any degree of perfection is silk furt; but the workmanship is lefs highly finished, and the price much greater than in Europe. Their mercery, their hardware, their gun and pillof barrels are all imported from foreign countries. It is difficult to find at Cairo one watchmaker who has fiff enough to repair a watch, and he too is an European. Jewellers, indeed, are more common here than at Smyrna and Aleppo; but they know not how properly to mount the fimplest role. For the mode of hatching eggs at Cairo without incubation, see HATCHING.

The government of Cairo, and of Egypt in general, is vefted in one of the 24 boys (fie Dey); and the chief judicial authority in the city is delegated to a "Mulla," who is annually appointed from Conflantinople; but his jurifdiction is principally directed to cafes of doubt and difficulty. There are, besides this officer, "Cadus" in all the diocfeis, which, in this great city, amount to more than 100. There are also "Imams," or priets of the four fefts, each having the direc- tion of the adherents of his fect. The revenue of the eafis arises from a tenth of the value of the thing litigated. See CADIS.

In Cairo every trade or profession has its fheikh or leader, who has great authority over the fclav of the clafs to which he belongs; and this circumstance much contributes to the good order of the city. The gates also, which are at the end of every ftreet, impede the progres, and render dif- cult the ecape of ill-intentioned persons. Notwithstanding these forms of government and subordination, Cairo affords no inceurity either for life or for property; and, therefore, the stranger on his arrival is struck with the universal ap- pearance of fqualid wretchednels. Indeed, he often meets with horfemen richly clad; but this display of luxury only renders the contrats of indigence the more shocking. Everything that he fees or hears, reminds him that he is in the country of favery and tyranny. The chief jufbles of conver- fation are intellefe diffentions, the public fillery, pecuni- ary extortions, baffinodces, and murders. "The blood of men," says Volney, "is fleed like that of the hift animals. Juifice herfelf puts to death without formality. The officer of the night in his rounds, and the officer of the day in his circuit, judge, condemns, and execute in the twinkling of an eye, without appeal. Executioners attend them, and, on the firft signal, the head of the unhappy victim falls into the leathern bag, in which it is received, for fcar of foiling the place."—"Without any other reafon than the avarice of a powerful chief, or the information of an enemy, a man is fummoned before fome bevy, on fulpifion of having money. A fum is demanded of him, and if he denies that he poftleffes it, he is thrown on his back, and receives 2 or 3 hundred blows on the foles of his feet, nay, fometimes is put to death."—

To the north-eaft of Cairo are gardens, and large houses, to which perfons of rank and opulence occasionally retreat; and the Mamelukes also perform their military evolutions, and exercife their horfes, in an open fpace appropriate to this purpofe. The ground under the mountains to the eaft is filled with tombs. The gates of Cairo are numerous; but the most remarkable are two at the northern extremity of the city, called "Bab-el-Nafr," and "Bab-el-Fitusch," which prefent a splendid display of Saracenic architecture. N. lat. 30° 2' 44". E. long. 31° 18' 16". Cairo by the mean of feveral accounts is about 59 geographical miles W. of Suez, equal to 1° 8' of longitude; and accordingly, Ca- rio should stand at 31° 20' of longitude. Savary's Egypt, vol. i. Volney's Travels, vol. i. Somnial's Travels. Browne's Travels in Africa. See EGYPT.

CAIROAN,
CAIROAN, or KAIR-WAN, the Pisa Augusta of the Itinerary, a wall'd city of Africa, in the ancient Bizzarion, or modern kingdom of Tunis, inferior in trade and in number of inhabitants only to Tunis, is situated in a sandy barren plain, 8 fagues W. of Sufa, and about the same distance S.W. of Herka. In this city and its vicinity are several fragments of ancient architecture. Its present name seems to be synonymous with "Caravan," and might originally denote the place where the Arabs had their principal station in conquering this part of Africa. It is said to have been founded for this purpose, and colonized by Akba, or Hueba, in the 53rd year of the Hegira, A.D. 670. Notwithstanding the inconveniences of its situation, which renders it necessary to obtain vegetable food from a great distance, and to collect a precarious supply of rain-water in cisterns or reservoirs, Akba encumbered it with a wall, enclosing a circumference of 3600 paces; and in the space of five years, the governor's palace was surrounded with a sufficient number of private habitations; a spacious mosque was supported by 500 columns of granite, porphyry, and Numidian marble; and Cairoan became the seat of learning, as well as of empire. Under the government of Ibrahim Ben Aqlab, from whom was derived the dynasty of the Aglabites, in the year 184 of the Hegira, A.D. 860, its buildings and inhabitants were very considerably augmented; and its inland situation, 12 miles westward of the sea, protected it from the Greek and Sicilian fleets. In the year of the Hegira, 585, A.D. 1494, it had its own sovereign, who was an Arab; but he was deposed of part of his dominions by Dragut, who commanded in the city of Tripoli for Soliman II. emperor of the Turks. N. lat. 35° 5' E. long. 10° 13'.

CAISIOMU, a town of the island of Cuba; 30 miles E.S.E. of Villa del Principe. Architecture. The practice of building in caissons is a method sometimes adopted in laying the foundation of bridges in very deep or rapid rivers. There are large hollow vessels framed of strong timbers, and made water-tight, which being launched and floated to a proper position in the river where the ground has been previously excavated and levelled, are there sunk. The piers of the bridge are then built within them, and carried up above, or nearly to the level of the water, when the sides of the caisson are detached from the bottom, and removed; the bottom, composed of a strong grating of timber remaining, and serving for a foundation to the pier.

The most considerable work, which has come to our knowledge, where caissons have been used, is in the building of Wellmington-bridge; of these, therefore, a particular account may be acceptable. Each of the caissons contained 150 loads of fir timber, and was of more tonnage than a man of war of 40 guns; their size was nearly 80 feet from point to point, and 30 feet in breadth; the sides, which were 10 feet in height, were formed of timbers laid horizontally over one another, pinned with oak trellons, and framed together at the corners, except the alant edges, where they were secured by proper iron-work, which being unscrewed would permit the sides of the caisson, had it been found necessary, to divide into two parts. These sides were planked across the timbers inside and outside with 3-inch planks, in a vertical position. The thickest of the sides was 18 inches at bottom, and 15 inches at top; and in order to strengthen them the more, every angle, except the two points, had three oaken luce timbers properly bolted and secured. These sides when finished were fastened to the bottom or grating, by 26 pieces of timber on the outside, and 18 within, called straps, about 8 inches broad, and about 3 inches thick, reaching and lapping over the tops of the sides; the lower part of these straps were dovetailed to the outer curb of the grating, and kept in their places by iron wedges. The purpose of these straps and wedges was that when the pier was built up sufficiently high above low-water-mark, to render the caisson no longer necessary for the masons to work in; the wedges being drawn up, gave liberty to clear the straps from the mortices, in consequence of which the sides role by their own buoyancy, leaving the grating under the foundation of the pier.

The pressure of the water upon the sides of the caisson was relieved by means of a ground timber or ribbon, 14 inches wide, and 7 inches thick, pinned upon the upper row of timbers of the grating; and the top of the sides was secured by a sufficient number of beams laid across, which also served to support a floor on which the labourers flood to hoist the stones out of the lighter, and to lower them into the caisson.

The caisson was also provided with a sluice to admit the water. The method of working was as follows: A pit being dug and levelled in the proper situation for the pier of the same shape as the caisson, and about five feet wider all round; the caisson was brought to its position, a few of the lower courses of the pier built in it, and funk once or twice to prove the level of the foundation; then being finally fixed, the masons worked in the usual methods of tide work. About two hours before low water, the sluice of the caisson, kept open till then, left the water, flowing to the height of many more feet on the outside than the inside, should float the caisson and all the stope work out of its true plane, was shut down, and the water pumped low enough, without waiting for the lowest ebb of the tide, for the masons to set and cram the stope work of the succeeding courses. Then when the tide had risen to a considerable height, the sluice was opened again, and the water admitted; and as the caisson was purposely built but 16 feet high to save expense, the high tides floored some feet above the sides, but without any damage or inconvenience to the works. In this manner the work proceeded till the pier rose to the surface of the caisson, when the sides were floated away to serve the same purpose at another pier. (Labeye's Description of Wellmington-bridge.)

CAISSON, in the Military Art, is sometimes used for a keel; and in particular for a bomb-keel. The caisson is considered as a superficial mine, or fourenus. Caisson is also a covered wagon to carry bread, or ammunition.

CAISTRUM, in Geography. See CASTOR.

CAISTRUS, in Ancient Geography, Kaisfer, a small river of Aia Minor in Ionia, formed by the union of two branches, which had their sources in mount Tmolus, and from the south-west, watered Metropolis or Ephesus, near which it discharged itself into the sea. It is called at present by the Turks "Kitschik Meander," or the Little Meander. Virgil refers to it, "Jan varias pelagis volubris, et qua Aia circum Dulcius in flagna rimantur prata Cayliri." — Georg. l. 1.

CAITAIA, in Zoology, the name under which Marcgraf notices fumia cicuris of Gmelin.

CAITHNESS, in Geography, sometimes denominated the shire of Wick, is the most northerly county of Scotland. Its S.W. border unites with the county of Sutherland; and the remainder is washed by the waters of the Pentland-Firth, and the German Ocean. This district, includes an area of about 35 miles from N. to S. by 22 miles from east to west. Mr. Pennant describes the country as a large morass interspersed
The rocky, student one... "I do," and large, A divided land is Dunbar-head, pointing to the opening of Pentland-firth; Orcaes, or Holburn-head, and Dunnet-head, both pointing northward to the north. Scrire-bay is a good harbour for shipping. There are two other smaller bays named from the contiguous places, Reay and Thuto. The only island annexed to this county is Stroma, which is situated in the Pentland-firth; the property of which was formerly claimed by the Earl of Orkney, but was afterwards attached to Caithness.

The cause of this reversion is said to have resulted from a curious experiment. The Earl of Orkney and Caithness contended for the property of this island, it being situated about midway between their respective districts. Instead of retorting to the sword in this dispute, they mutually agreed to abide by the issue of a more inoffensive trial. As venomous animals would not live in the Orkneys, some were conveyed to Stroma, and finding that they continued to thrive in the island, it was determined that it naturally belonged to Caithness, and was adjudged to that earldom accordingly. This county is well watered, and contains a few birch plantations; but the soil and climate are unfavourable to the growth of timber. At some parts of the coast, the sea is generally very impetuous, being continually agitated by violent counter tides, currents, and vortices. Fish are caught in great abundance, but from the above named causes, and the want of convenient harbours, the proprietors do not derive much advantage from this exportation. The rocks round the shore are perforated into numerous caves, which are frequented by an abundance of seals. Many of these are destroyed by the inhabitants. Eagles, hawks, and a vast quantity of sea-fowl frequent these rocks.

Caithness is well peopled with a race of hardy, athletic inhabitants, whose chief employ, and source of livelihood are fishing, and breeding sheep and black cattle. Of the latter it has been recorded, that from 1000 to 2000 head have been sent from this county in one year. In bad seasons, the farmers moly kill and salt them for home consumption and for exportation. Great numbers of swine are also reared here, but according to the opinion of Dr. Morison, (Sir John Sinclair’s Statistical Account, viii. 150.) “the damage they do in the winter to the graps and corn lands, as they are allowed to roam at large, far exceeds any advantage that can accrue from them.” Thes animals are rather peculiar in character and species: they are short, high-backed, long-haired, shaggy, sly, and long roled, have high erect ears, and are very wild in aspect. Barns and granaries are unknown to this county; the corn is threshed out and preserved in the chaff in byres, which are flacks in the shape of bee-hives, and thatched quite round. Much salmon is taken in the rivers of this county, particularly at Caife hill, Dunnet, Wick, and Thurso. At the last place there was “a miraculous draught taken within the memory of man; not less than 1500 being caught at one tide.” (Pennant’s Tour in Scotland, i. 232.) Caithness is divided into ten parishes, and contains one royal borough, Wick, and the town of Thurso. It sends a member to Parliament alternately with the county of Bute. The principal landholders are the earl of Caithness, Sir John Sinclair, bart. Sir Benjamin Dunbar, and — Sinclair, esq. all of whom polled seats in the county. Many monuments of antiquity are still remaining in Caithness, most of which are of a military nature. Of the more ancient kind are the Cairns, Duns, and Tumuli; which are scattered over many parts of the county. Some ruins of castles are still left at Caife-Sinclair, Germenico, Auchnaven, Dirlot, and Lochmire. In mineralogy, Caithness possesses some articles of value, as excellent free-stone and lime stone; also, copper, lead and iron ores. At the N. E. point of Caithness is Dunbar-head, the most extreme northern promontory of Britain. At this place the breadth of the frith does not exceed twelve miles, and is the most usual ferry or passage to the Orkney Islands. In the fords of Moray and Bradda, are abundance of red deer, roe-bucks, &c. and the county abounds with gruthe, heathcocks, plower, hares, and moor other game. Birds of a peculiar species, called Snow-fleets, frequent this county, in large flights, about the middle of February, and depart in April. They are about the size of a sparrow, and esteemed very delicious in flavour. The last private war in Scotland was occasioned by a dispute relating to this county. Pennant’s Tour in Scotland ed. Sir John Sinclair’s Statistical Account of Scotland.

CAIUS, Pope. In Biographia, succeeded Eutychianus in the pontificate A.D. 283, and held it till A.D. 296. The church of Rome reckons him among her martyrs; but history informs us, that, having concealed himself under the perfecution of Diocletian, he died in peace A.D. 296. To him is ascribed a decree that bishops should pass through the seven inferior orders of the church before they assumed the episcopal office.

CAIUS, or CAIUS, an ecclesiastical historian, who flourished, according to Cave, about the year 210. Photius says, “that he was ordained bishop of the nations,” i.e. as some have interpreted the phrase, that he was ordained to preach the gospel to infidel countries, without the allotment of any particular diocece. Fabricius reads, instead of “nations,” Athens; and accordingly suppofes, that, having been at first a presbyter of the church of Rome, he was afterwards made bishop of Athens. It has been ascertained by many writers, but upon disputable authority, that he was a disciple of Irenæus. Three or four books are ascribed to Caius, viz. “A dialogue or disputation with Proclus or Proclus,” a follower of Montanus; “Of the Universe;” the “La-byrintli;” and a treatise against the “Here of Artemon.” Some fragments of these works are still extant. The first, however, is, in Dr. Lardner’s opinion, the only piece justly ascribed to him. In his dialogue are some passages that indicate the author’s respect for the ancient scriptures generally received by Christian; though he seems to have thought, the epistle to the Hebrews was not written by St. Paul, and that the book of the Revelation was not genuine, but probably an impudence of Cerinthus. Cave, H. L. T. i. p. 100. Lardner’s Works, vol. ii. p. 371, &c.

CAIUS, BEARNARD, born at Venice towards the end of the 16th century, where he received his education, published, in 1606, “De Vefcicantum Ufu.” He entirely rejects blisters in all acute diseases, as adding greatly to the malady by irritating the system. He also published in 1608, “De Alimentis, quos esse naturam convenient,” de Voluptate, Sapere, Frigida Puteane, Viribus Salis Nitrata refurgiandam,” 4to, republished in 1610. Haller Bib. Med.

CAIUS, KAFV, or KEY, JOHN, an ingenious and learned physician, was born at Norwich, October 6th, 1510. After passing through the usual school education at Norwich, he was admitted a student in Gonvill Hall in Cambridge, Sept. 1st, 1529, and having distinguished himself by his proficiency in literature, he was made fellow of that community in 1532. His thirst for knowledge, and his desire of perfecting himself in the different branches of medicine, determined him to visit the Continent, and to pass some time at Padua, then famed for the celebrity of its professors, particularly in that branch of science. He here studied under John Baptista Montanus, having Vesalius for his fellow student.
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dent. His progress here in Greek and Latin, as well as in the knowledge of anatomy and medicine, equalled the pro-
mifes of his early years; as was evinced by his translations and
and commenataries on various parts of the works of Hippo-
Gratus, Galen, Scribonius Largus, &c. correcting the errors
of the transcribers, and elucidating and explaining the more
difficult passages. With the view of hearing other pro-
feffors, and of examining ancient manuscripts, he visited
of the principal cities of Italy. At Bologna he resided some
time, and there took his degree of Doctor of Medicine, in
1541. He then returned to Padua, and in conjunction
with Realus Columbius, read lectures on the Greek text of
Ariftotle. In 1544, he came to England, and for some
time read lectures in anatomy to the corporation of surgeons
in London. He afterwards practised medicine at Shrewsbury,
where he was at the time when the sweating sickness made
its appearance in 1551; of which he published a popular
account, with the view of instructing his countrymen in the
nature of the complaint, and of the methods he thought most
proper for opposing its progress. This he afterwards, in
1556, published again in Latin, much enlarged and
improved, under the title of "De Ephemera Britannica." As
it contained an accurate description of the disease, whatever
might be the value or the efficacy of the practice, it was
thought deserving of being preferred, and was reprinted in
1721, 12mo. His reputation for learning and abilities
being established, he was admitted a fellow of the College
of Physicians in 1547. He was also appointed physician to
King Edward the Sixth, and in succession to the queens
Mary and Elizabeth. To the College of Physicians he was
a warm and strenuous friend, and on the death of Lmacer,
under whom it was founded, he was appointed president,
under which office he held for seven years. During this
time, he revised their laws, appointed a president, and,
to encourage the study of anatomy, he obtained a grant of
the bodies of two malefactors every year, to be dissected
under the direction of the College. He also drew up their
annals in Latin, or an account of their institution, with a
journal of their proceedings, which he left with the College.
Mindful of his alma mater, he obtained from Queen Mary a
power of erecting Gresham Hall into a College, adding to
its endowments, provisions for three fellows, and twenty
scholars. He added an entire new court to the College,
and built three gates. They cost him together 18,321.
The improvements were begun in 1553; and when completed he
was made Master of the College, and continued in that post
until a short time before his death, when he resigned it to Dr.
Legge, but still resided as a fellow commissor; and died
there in 1573, aged 63 years, having in his last illness
supported himself by woman’s milk. On his tomb, by his
inscription, was engraved, "Fui Causus." Besides his versions
from the Greek, and the "Ephemera Britannica," he pub-
lished "De Cambus Britanniciis," 1570, interested entirely by Mr.
Pennant in his British Zoology; to which were added
"Historia rarioarum Animalum," originally printed in
Gefener’s collection; also, "De Libris propriis," and "De
Antiquitate Cantab. Academici"; and from numerous
medicated manuscripts, appears to have projected various
Mem. of Medicine in Great Britain.

CAJUS, in Entomology, a species of Papilio (Hesperia
Fabricius), having entire brown wings, with a bluish disc;
beneath, varied with cinerous and white, with brown occi-
doral dots. Inhabits India.

CAJIX, in Geography, a town of France, in the de-
partment of the Somme; 12 miles E. of Amiens.

CAKE, a short sort of bread, denominated from its flat,
round figure. We meet with divers compositions under the
name of cakes; as feed-cakes, made of flour, butter, cream,
sugar, coriander and caraway-seeds, sage, and other spices
and perfumes, baked in the oven; plum-cakes, made
much after the same manner, only with fewer seeds, and
the addition of currants; pan-cakes, made of a mixture of
flour, eggs, &c. fried; cheese-cakes, made of cream, eggs,
and flour, with or without cheese-curd, butter, almonds,
&c.; out-cakes made of fine oatmeal flour, mixed with yeast,
and sometimes without, rolled thin, and laid on an iron
or plate to bake over a low fire; sugar-cakes, made of
fine sugar beaten and scoured with the face flour, adding
butter, rose-water, and spices; rose cakes, planatae reficis,
are leaves of rose dried and pressed into a mass, fold in the
shops for ephepith. See EPHIPHEM.

CAKE of Copper, denotes a quantity from 1 lb. to
one hundred-weight.

CAKE-IN, a denomination sometimes given to the white
of virgin-wax.

CAKE-soup, lands distinguished from soap and bal-
soap. See SOAP.

CAKET, in Geography, a town and capital of a country in
Asia, in the northern part of Persia, near mount Caucasus,
trading principally in silk. N. lat. 43° 21’. E. long. 46° 49’.

CAKEL, in Botany, (Tournefort, Gartner, and Ven-
tenat.) See BUNIA.

CALA, in Geography, a town of Spain, in the country of
Seville, on the borders of Estramadura; 14 miles S. of Lerena.

Cala, See El Callah.

CALABA, in Botany. (Pluhot.) See CALOLYPHUM.

CALABAR, or CALABARI, in Geography, a country
of Africa in the kingdom of Benin, or Upper Guinea, usually
distinguished into New and Old Calabar, with a river of
the same name in each. The entrance into New Calaba is
in N. lat. 4° 30’. W. long. 9° 10’. That into Old Cala-
bar is in N. lat. 4° 32’. W. long. 10° 58’. The Dutch
carry on a considerable trade with this country. See
BENIN.

CALABASH, or Botany. See CURCUMA PEP.

CALABASH-tree. See CRESCENTIA.

CALABASH, African. See ADANSONIA and BAOBAB.

The word is Spanish, cabaza, which signifies the fame.
The Indians, both of the North and South sea, put the
pales they have filled in calabashes, and the negroes on
the coast of Africa do the same by their gold-dust. The smaller
calabashes are also frequently used by these people as a mea-
ure, by which they weigh these precious commodities to the
Europeans.

CALABASH-bay, in Geography, lies on the S.W. side of
the island of Jamaica, between Flint bay on the east, and
Swift’s river on the west, and affords good anchorage.

CALABER, Quintus, in Biography, a Greek poet,
appoited to have flourished under the emperor Anaxiades I,
about the year 451, and to have derived his name from Cal-
abria, though he refuted chiefly at Smyrna. He is known
as the author of a poem, consisting of 14 books, on the
"Paraphrasmata" of Homer, or the events of the Trojan
war, not related by that poet, and commended for its ele-
gant verification. It was discovered by cardinal Della-
in a monastery near Otranto in Apulia. Two of the books, describing the capture of Troy, were published separately by Neander, in his "Opus Aeneum," Leip. 1557. Editions of the whole have been given at Hanau, Svo. 1604; and by Pau at Leyden, Svo. 1734. Voss. de Poet. Graec.

CALABREZA, in Geography, a town of South America, in Terra Firma, on Oronooko river.

CALABITE, a small island of the East Indian ocean, being one of the Philippine islands, between Mindoro and Luzon.

CALABRIA, in Ancient Geography, a name supposed to have been received from the oriental "calab," or pitch, on account of the resin obtained from the pines of this country, and corresponding to that part of Italy more generally denominated "Mellapia," and the present Calabria.

CALABRIA, in Geography, a country of Italy, in the kingdom of Naples, divided into Calabria Citera and Calabria Ulteria, or Hitler and Further Calabria. The former is bounded on the north by Baficatia, on the east by the gulf of Taranto, on the south by Calabria Ulteria, and on the west by the Mediterranean, and a small part of Principato Citera. Swinburne estimates its extent at 1,460,592 acres, (five moggie being equal to four English acres) and the number of inhabitants at 315,326. It abounds in excellent fruits, corn, wine, oil, hemp, cotton, flax, saffron, honey, salt, wool, silk, and cotton. It has some mines of gold and silver, lead and iron, together with sulphur, alabaster, and rock-crystal. Hogs and sheep are numerous. Its coasts are defended by towers. Its principal towns are Cozenza, Paola or Paula, Diignano, Caffano, Scalea, Cariati, Roffano, Umbriatico, Strongoli, Carenza, Martorano, and Amantea. Its chief rivers are the Co-chile, Cratte, Lao, Celano, Trionto, Aquilone, and Bato. Calabria Ulteria is bounded on the north by Calabria Citera, and on the east, well, and south, by the Mediterranean sea. The productions are nearly the same with those of Calabria Citera. The extent, according to Swinburne, comprehends 1,591,878 moggie; and the number of its inhabitants is 493,392. The principal towns are Catanzaro, Cotrone, St. Sorgeta, Holan, Taverna, Nicaladro, Delcalfro, St. Eufemia, Squillace, Tropea, Nicotera, Mileto, Oppido, Gerace, Reggio, and Bova. The chief rivers are the Adda, Angiota, Tacia, Aro, Alice, Atmo, Motaro, and Metrano.

In Calabria all the oxen are white, large, and long-horned, except those of the red breed, which have been introduced from Sicily by the princes of Cariati and Gerace. The buffaloes are black; and the milk of the goats, sheep, and hogs is of that hue. The last species have no hair, but their hides are as flax as those of elephants. In some parts of this country dormice are accounted delicate game, as they were in ancient Rome, where they were kept in warrens, and fattened for the tables of the most refined epicures. They are smoked out of their nests in hollow trees, and caught with sharp hooks. Their skins make very fine leather. The Calabrian horses are pretty spirited, and brilliant in their motions; but generally low, and seldom free from vice. All live animals in Calabria are taxed. Six carlini (or about 28, 3d.) are paid for an ox, 4 grains (to which make a carlini) for a sheep; and therefore it is no wonder that the graziers should be indigent, and that the cottagers should keep no beast of any kind, and that they should live upon casual and insubstantial nutriment, instead of milk, cheese, and other wholesome diet, which is the rich patrimony of the country ought to afford them. Arable land is ploughed four times; but instead of laying down their fallows with hay, as in the northern counties, the Calabrians plough them. The Calabrian farmers think he does his farm ample justice if he ceases to plough it for two or three years, and leaves the good grass, accidently produced there, to make its way, as well as it can, through the matted fibres of various sorts of rank weeds. The Calabrian foresters no amelioration of his condition from any of his efforts; and he is discouraged by the apprehension that increasing activity and produce on his part would subject him to an additional weight of taxes and oppression.

The Zingari, or gypsies, of Calabria do not contract alliances with any other clans of inhabitants, but marry among themselves. They have no permanent property, nor any fixed habitation. They subsist by the profits of little handicrafts, and chiefly by trucking asses and horses, which they do for the smallest trifles to boot. They generally work in iron, and make trivets, knitting-needles, and bodkins, and baubles of that kind. Their dress is very mean; they have their chins, but wear long hair, to which they apply neither comb nor scissors. Their religion is altogether mysterious; and though they occasionally conform to the ceremonies of the Roman Catholic church in marriage, burials, &c. they often perform these functions according to their own customs, which resemble those of the heathens. At their weddings they carry torches, and have parapymas to give away the bride, with many other unusual rites. With regard to their conduct, they are depraved and licentious; and are universally accounted to be pilferers, cheats, faithless, thievish, and abandoned to all manner of dissoluteness. They accustom themselves to tell fortunes, and to play juggling-tricks, as they do in other countries. In 1590, they were banished the kingdom as thieves, cheats, and desperadoes, for the Turks. In 1569 and 1571 the order was renewed; but not being enforced, it had little effect. They make use of two languages, one Calabrian, with a foreign accent and pronunciation; the other peculiar to themselves, which, in found, bears a great affinity to the oriental tongues, and is spoken by them whenever they have secrets to impart to each other.

There is a visible difference in the dress and manners of the two Calabrins; the inhabitants of the south part resemble the Sicilians; and, like them, they are alike clothed in their turn and what they wear. The Sicilians, it is supposed, even now betray strong marks in their character of their ancient connection with the Africans, and the North Calabri compared to their disposition, much German solidarity, arising perhaps from colonies transplanted thither by the Swabian princes; and in the southern Calabri, and Neapolitans, particularly the latter, are evident traces of Grecian manners and temper. Calabria is in bad repute with respect to the safety of travellers; and yet the people seem perfectly honest with regard to one another; for their houses have no bolts or bars to their doors; and during the owners' absence, they are left to the mercy of every passerby. Swinburne's Travels in the Two Sicilies, vol. ii. and iv.

Calabria, formerly peopled by the Bruttii and other Greek colonies, has been in all ages convulsed and desolated by earthquakes. In 1638 and 1639 the two provinces of Calabria were almost utterly destroyed; and that of 1744, though not equally injurious, was very calamitous and distressing. The dreadful effects of the succession of earthquakes of 1753, are particularly described by Count lapsioli and Sir William Hamilton. The part of Calabria, according to Sir William's account, which was most affected, is comprehended between the 58th and 59th degree; and the greatest force of the earthquake seemed to have exerted itself from the foot of those mountains of the Appenines, called the Monte Duro, Monte Sacro, and Monte Cautore, extending westward to the Tyrrhenian sea. The towns, villages, and farm-houses, nearest
CAL

CALACTA, a maritime town, seated on the northern coast of Sicily. Ptolem. CALADIN, in Botany, a plant which Limnæus afterwards called Arum eufulentum. Ventenat has separated it from Arum; and uniting it with the ovatum, the fagittæolum and arborecenis of Limnæus, and the bicolumnum of Aiton, with two other sorts known, has formed a new genus under the original name given by Rumphius, with the following general character. Spathe swelling, folded in its lower part. Spadix or ament shorter than the spathe, simple, straight, cylindric, with the male flowers on the upper part, and female on the lower. Anthers sese, disposed in a spiral form, with twelve furrows full of pollen in molecules agglutinated together, and terminated at the top by a flat surface in the shape of a lozenge, which is sprinkled with shining dots, and crenulated at its border. GCM numeros; orbicular, concave. Sizga sese, umbilicate; full of a viscous liquor. The space between the flaments and pistils occupied by four rows of oblong, obtuse, elevated glands. Fruit similar to that of Arum. Its essential character, according to Ventenat, is founded on the situation and structure of the anthers, and even of the pollen itself, on the direction and form of the glands, and on the umbilicated stigmas. See ARUM.

CALAHUNNUM, in Ancient Geography, a town of Spain, assigned by Ptolemy to the "Callaici Bracarii" in the Terragonum, and situate, according to M. d'Anville, to the north-west of Aquae Flavium.

CALAE, islands of the Indian ocean, placed by Arrian at the mouth of the Peric gulf.

CALÉNUS, a fountain of Asia Minor in Lycia. Steph. Byz.

CALAF, in Botany, (Alpinus Ægypt.) See Salix Ægyptiaca.

CALAF, in Geography, Karaaghoun-Souli, a stream of Asia in Mesopotamia, which, running from west to east, discharges itself into the Tigris, near Amida.

CALAGORINA, a town of Spain, attributed by Ptolemy to the Vocabenses.

CALAGORRIS, Cazeris, a place of Gaul, belonging to the "Volcæ Teufofages," at some distance S.W. of Tolosa, and comprehended within the Narbonensis Prima.

CALAGUM, Chaille, a place of Gaul, belonging to the "Maldi," S.E. of Maldi or Tatamine (Meaux.) It was included in the Lyonnaesis Quarta.

CALAGURIS, now CALAHORA, a town of Hispania Citerior, seated on the Iberus, belonging to the Vaconces. Allo, a town of Spain, belonging to the Hébertes, according to Ptolemy; now Lobariz. It was situated N. W. of Olca.

CALAH, or CALF, in Ancient Geography, one of the four cities built by Alhor, of which we have an account in Gen. x. 11, 12. This is supposed to be the Calach, situate about
the springs of the river Lycus, and mentioned by Strabo as the capital of a province called Calachene, seeming to be the same with Tpomey's Calache, above Adiabene, towards mount Niphates.

**CALATXORRA**, in Geography, an episcopal town of Spain, in Old Castile, seated on the south side of the Ebro, on the borders of Navarre; 62 miles N.W. of Saragossa.

N. lat. 42° 18'. W. long. 7° 7'.

**CALAI**, a sea-port town of France, and chief place of a canton, in the department of the Ais, and district of Boulogne; the place contains 6,750, and the canton 15,266, inhabitants; the territory includes 165 kilometres, and 12 communes. Calais has a citadel on the N.W. side, and near the sea, as large as the town, with one entrance, and is strongly fortified; but its chief strength depends upon its situation among the marines, which may be overthrown at the approach of an enemy. It is encompassed, except for a short space towards the harbour, by a moat and wall, which latter serves as a public walk. It is a regular well-built town, with a spacious and handsome square, and its streets are tolerably clean and well paved; and has several churches and monasteries. Its harbour, formed by a small rivulet, is too much obstructed by sand to admit of large vessels or even common merchant ships, except at high water. This haven ebbs dry at every tide; but at high water, with a common flow, it has not less than 3 fathoms. The flood sets in N.E. by E. The harbour commences at the gate of the town, where a fine massive quay terminates in two long wooden mole, which extend far into the sea. Calais is a trading town, and in time of peace regular packets for the mail sail from and to England; and other passage boats form a constant intercourse between this place and Dover, from which it is distant 22 miles S.E. Some have supposed that an island formerly joined Calais and Dover; and that the rupture of it was occasioned by an earthquake, and has been gradually widened by tides and currents. Calais communicates by means of canals with St. Omer's, Gravelines, Dunkirk, &c.

About the close of the 12th century, Calais was only a fishing village; but from the success of its inhabitants in the herring fishery, it soon acquired so much importance as to attract the notice, and excite the rapacity of the church; so that in the year 1180, we find that pope Alexander III. granted the title of all the herring there taken to the abbey of St. Bertin, recorded for its immense wealth, for the luxurious and diffolute lives of its monks, and for the wealthfulness of its abbots. The honest fifemen, not readily comprehending the pope's right to give away their property, declared that they would sooner decimate the monks than suffer their herring to be decimated. They were, however, reduced to obedience by the count of Flanders, who was then their regent, as guardian to Idi, count of Boulogne. Its walls and canal were built in the year 1228 by Philip count of Boulogne, brother of Lewis VIII.; but its municipal laws and privileges are supposed to have been granted by the countess Idi, and her fourth husband, Renauld de Dammartin, in the year 1191. From these laws it appears that the city was governed by its own magistrates elected by the citizens, and by a bailiff appointed by the count. Among its privileges we find that, if a woman offered to the king, as her husband, a man condemned to death for theft, the might demand and obtain his pardon. In 1347, Calais was taken by Edward III. of England, after having been reduced to extreme distress by famine. Edward, having been detained under its walls for eleven months by the obstinate resistance of its defenders, conveyed a messenger to the governor, who informed him that he would grant them no terms; but that they must surrender at discretion. At length, in consequence of the frightful calamities of the governor, and the intercession of sir Walter Manny, whom he had deputed as his messenger, Edward consented to grant their lives to the garrison and its inhabitants, except those of the principal burgesses, who were required to deliver to him the keys of the city, with ropes about their necks. In this extremity of distress, Eustace de Pierre, one of the most wealthy merchants of the place, voluntarily offered to be one of those fixed victims; and his example was followed by five others of the richest citizens. These illustrious patriots, barefoot and bared-headed, with ropes about their necks, were attended to the gates by all the inhabitants with tears, blessings, and prayers for their safety. When they were introduced into the presence of Edward, they laid the keys of the city at his feet, and, falling upon their knees, supplicated his mercy in straits so moving, as to melt the spectators into tears. The queen enforced their intercession, and impressed and obtained their lives. Having thus succeeded, she conducted them to her own apartment, entertained them honourably, and dismissed them with presents. Edward, having taken possession of the city, found it necessary to turn out all the ancient inhabitants, and to people it with English. Calais remained from this time in subjection to England till the reign of queen Mary, when it was retaken by the duke of Guise. The duke obliged all the inhabitants to abandon the place, and conferred the government of it upon Des Termes, who was soon after made a marshal of France. By the treaty at Chateau Cambresis, it was agreed, that Calais should, after the expiration of 8 years, be restored to England; and, at the expiration of that term, queen Elizabeth dispatched some troops to recover it; but the surrender was refused, because, five years before, the English had taken Havre, and violated the terms of the treaty. In the year 1506, it was taken by the Spaniards, under the conduct of the adelaidue Albert, but was restored two years after by the peace of Vereins. In 1694, it was bombarded by the English, under sir Cloudy of Shovel, but without fulfilling much damage. Calais is distant 7 leagues from the South Foreland, and 40 from Dunmose; 5 polls S.W. from Dunkirk, and 34 S. from Paris. N. lat. 5° 57' 31". E. long. 1° 50' 56". High water 11' 30'.

**CALAIS,** St. a town of France, and principal place of a district in the department of the Sarthe; 6 leagues E.N.E. of Chateau du Loir. The place contains 3,530, and the canton 15,249, inhabitants; the territory comprehends 307½ kilometres and 14 communes. N. lat. 47° 56'. E. long. 0° 39'.

**CALAIS,** a township of Caledonia county, and state of Vermont, in America; 105 miles north-easterly of Bennington; containing 45 inhabitants.

**CALAMA,** in Ancient Geography, Gela, or Calma, an episcopal town of Africa, in Numidia; situate to the south-west of Hippo-regius. St. Augustine mentions a disturbance that happened in this place, A.D. 405, or 409; and that soon followed a law enacted by Honorius in 407, or 408, expressly prohibiting the solemnities of the Gentiles.

**CALAMA,** the name of a village of Asia, in Carmania, or Gedrosia, according to Arrian.

**CALAMA,** in Geography, a town of Naples, in the province of Calabria Ultra; 6 miles N.E. of Reggio.

**CALAMAE, or CALAME,** in Ancient Geography, a borough of Peloponnesus in Messenia, seated on the river Aris, and mentioned by Polybius and Pausanias.

**CALAMA-**
CALAMAGROSTIS, in Botany, (Trag. ic. Dalech. Hift.) See Triglochin palustris. Linnaeus has given it as a trivial name to a species of Agrostis, and also to one of Arundo. Dr. Withering has made it a generic appellation for such species of Arundo as have only one floret in a calyx: but, as Dr. Smith justly observes, (Flor. Brit. vol. i. p. 145.) the very natural genus arundo ought not to be broken merely on account of a difference in the number of florets, and, if that were not the case, the term calamagrostis is not admirable, as a generic name, on the established principles of the Linnaean Nomenclature.

CALAMARCO, in Commerce, a woollen stuff manufactured in Brabant and in Flanders, particularly at Antwerp, Lille, Tournay, Turcoin, Ronbaix, and Lannoy. It is commonly woven wholly of wool; there are fome, however, wherein the warp is mixed with flax, and others with goat’s hair. There are calamanses of all colours, and diversely wrought. Some are quite plain, others have broad stripes adorned with flowers; some with plain broad stripes; some with narrow stripes; and others watered. This has been also an inconsiderable branch of the woollen manufacture in England, both for home wear and exportation; but of late it has declined.

CALAMRACUM, in Ancient Geography, a place of Italy, in Magna Graecia, between Petelia, and the north of Lucania.

CALAMARIA, in Botany, (Dillen. Musc.) See Isogalium lacustris.

CALAMARIE, one of the natural orders of Linnaeus, nearly allied to the galesies, and having commonly the same kind of leaves, but differing from them in not having a two-valved glume. The calamaria have a culm which is generally triquetrous, rarely cylindrical, often leafless, or bearing only a few leaves. The leaves are generally more rigid and rough, and the flowers are often diploed in an imbricated manner. The genera enumerated in the Systema Naturae are,bobartia, (but the genus is now abolished; see Bobartia) scirpus, cyperus, eriophorum, carex, and schanus; with a doubt, whither flagellaria, juncus, and fcheuchzeria should not be added. In the posthumous lectures of Linnaeus, as published by Giecke, they stand thus: sparganium, typha, eriophorum, scirpus, carex, fcleria, cyperus, schanus, reftio, galinia, kyllingia, fuierna. The genus fcleria is added by Giecke.


This kind inhabits America: general colour livid with linear brown fritters and dots: beneath teffellated with brown.

CALAMATA, in Geography, a town of European Turkey, in the Morea, seated on the river Spinazea; taken by the Venetians in 1665; but since retaken, together with the rest of the Morea, by the Turks; 13 miles W. of Miftra.

CALAMBA, or CALAMBA, in Commerce, a kind of wood brought from China, usually sold under the denomination of Agalma aloes, or agallochum. Sir Phil. Vernetti makes calambe and lignum aloes synonymous. Others seem to distinguish, refining calambe wood to the bell fort of aloes wood, growing chiefly in Malacca, and Sumatra; and much used in India for making of beads and crucifixes. Phil. Trans. N. 43. p. 863.

CALAMENTHIA, or CALAMINTH, in Ancient Geography, a town of Africa, in Libya, belonging to the Phoenicians.

CALAMIANES, in Geography, a cluster of islands in the Indian Sea, among those called the “Philippine Islands,” situated at a small distance from the northern cape of Paragusa, and west from Manila, and giving name to a province or government. They are reckoned twelve in number, which are all small, and inhabited by peaceable Indians, who pay tribute. The chief product of their mountains is wax, which they gather twice in the year. The rocks over the sea afford some of the effumed birds’ nests, and on the coasts are fine pearls.

CALAMIDES, a cluster of islands, amounting to about seventeen, situated in the Indian Ocean, 14 or 15 leagues S.W. of Lubar, and forming a province; the largest of which is Paragua, which fea.

CALAMIFEROUS, in Botany, a denomination given by one to those otherwise called culminiferous plants.

CALAMINA, in Ancient Geography, a lake of Afa, in Lydia; in which, according to Phryn, were floating islands, which, during the Mithridatic war, served as a place of refuge for the Roman citizens.

CALAMINE, or LAPIS CALAMINARIS, is an ore of Zinc, which fce. The lapis calaminarsis, calcined, powdered, and sifted, forms a heavy brownish-yellow powder, which when mixed with wax and oil forms the “ceratum lapidis calamarios,” (ceratum eptoleum of the old difpenaries,) the most commonly used of all the fimple ungualts. Calamine is much used for taking off films from the eyes of horses, &c.

CALAMINE, in Rural Economy, an ore of zinc, having a white-grey brown, or red colour, and varying in hardness. It is found in Derbyshire, and some other districts, and is supposed by some writers to be capable of being made use of in agriculture with advantage, from its containing oxygen in a large proportion, as one of its constituent principles. Too few experiments have, however, yet been made with this material to fully ascertain its utility in this application.

CALAMINT, in Botany, (Smith Flor. Brit.) See Thymus Calamintha, and Nepeta, removed by Dr. Smith from Meliss.

CALAMINTHIA, (Pluk. Mant. 34. t. 344. in. Mor. Hift. iii. p. 413. S. 11. t. 19. f. 7.) See CUMI-

LA mariana.

CALAMINTHIA arvensis verticillata, (Bauh. Pin. 229.) See MENTHA arvensis.

CALAMINTHIA aquatica belgarum, (Lob. ic. 505.) See MENTHA exigua.

CALAMINTHIA hederaeace, (Scop.) See GLECHOMA hede-

racea.


CALAMINTHIA vulgaris, (Bauh. Pin. 228.) montana, (Dod. Pemp. 98. Riv. t. 96. Blackw. t. 166.) See Melissa calamintha, Linn. Thymus. Dr. Smith.


CALAMINTHIA incana, (Bauh. Pin. 228. Pulegii odoris minor Bar. ic. 1166.) See Melissa ericita.

CALAMINTHIA bituminosa fruticosa, (Tourn. Infl. 194.) Montana incana minor. (Mor. Hift. 3. p. 413. n. 3.) See Melissa frutescens.

CALAMINTHIA teretius genus, (Fuch. Hilf. 456.) See ISULA dyserina.

· CALAMINTHIA, in Ancient Geography, a town of Libya, probably of Mauritania, taken notice of by Herodotus and Hecataeus, whose situation is unknown; but supposed by Bochart, from the etymology of the name in the

Phoenician
Loerii

"Internodes inconliderable fix C. the and division Vent.

Stems by Pliny be foot C. p. the Seeds C 1.) ftyle pro-

2. the have Afia, account found the the other melle

the was eaf't many, Linn. lotidett, fions which iligmas denominated CALAMITES,

CALAMO, CALAMITIS CALAMOCHA, CALAMON, CALAMUS the called

from foreign gulf, Linn. one-celled,

The Palm£;

The clas
d^g. de
g. lclifpoGtion

popula-

tion,

am

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itcd,

hollow

fed.

Peric.

fruits.

round,

see-

flanges three, simple. Peric. membranous, top-shaped, or
globular, covered with scales imbricated backwards and

obtuse, one-celled, at first pulpy, afterwards dry. Seeds one,

two, or three, globular, fshy.

Eff. ch. Calyx of six leaves, or with six divisions. Cal-

Gall

rolls none. Fruit a one-celled berry covered with scales

imbricated backward.

Obf. The three inner leaflets of the calyx have the appear-

ance of petals, and it is not easy to determine why they

were not considered as such by Linnæus. The division of

the fyle and the three flanges make it probable that these

are naturally the rudiments of three germs, but two of them

generally prove abortive. Julifon observes that this genus

forms the connecting link between the palms and the gradales,

having the flower of the former and the habit of the fagio.

The fagio palm so nearly resembles calamus in its parts

of fructification that it scarcely seems a distinct genus. The

only difference between them, according to Gurriner, is

that the flowers of the former are monocious, and of the lat-
ter hermaphrodite; and that the embryo of the former is on

the side, and of the latter at the base of the seed. As

the flowers, at least of one species of Calamus, are now al-

lowed to be monocious, the former difference vanishes;

and whether the latter alone be a sufficient generic distinc-

tion, may justly be doubted in the present imperfect state of

our knowledge.

Linnæus makes only one species, but mentions eight va-

rieties, all taken up from Rumphius, who calls them Pal-
mijuncet from their similarity to the palms in their fructifi-
cation, and to the iunco, or rushes, in their flexibility.

Lou-

reiro has distinguished and described six species. Wilkesenow,

has enumerated eight, at the same time acknowledging that

he cannot identify the scipionum, amarum, and dicium of

Loureiro. Poiret has extended them to twelve, from the
descriptions of different authors, but without being abso-

lutely certain that his synonyms arc in all cases exact.

As he is the latest writer on the subject, we shall take him for

our guide.

Sp. 1. C. petreus, Lour. (Rotang. Willd. var. and Linn.

Arundo zeylanica Rumphius: Barm. zeyl. 36. Flor. 468.

Thraci-ficul: Rheed. Mal. v. 12. p. 12, t. 6. 46; Palmituncus calapparins: Rumph. Amb. v. 5. p. 97, t. 51.) "Stem
toch, fett with prickes; prickles erect; spadix erect." Willd. Stems more than a hundred feet high, and at least

the thickness of a man's arm; internodes cylindrical, unequal, furrowed, spotted, about a foot long, downy toward

downy towards the summit. Leaves, or fronds, in terminating tufts, alternate, winged; leaflets sword-shaped, long, straight, beft with

numerous, straight, long, very sharp prickles. Spadix nearly straight, moderately branched. Calyx with six divisions. Berry rather egg-shaped, acuminate. A native of the East Indies and Cochinchina, where it is used for making long

pikes. The inner part of the young shoots, stripped of the bark, is eaten either boiled or roasted on the hearth. The plant is pleasantly acid. 2. C. rudentum, Lour. (C. roting

var. γ Linn. Palmituncus culmus: Rumph. t. 53.) "Prickles of the item reflexed; spadix divergent, straight." Willd. Stems very tough, not more than an inch

thick, but rising by the means of trees, and passing from one tree to another, sometimes to the length of more than

five hundred feet; internodes nearly equal, round, a foot and a half long. Leaves, long, winged, reflexed: common

petiole lengthened into a naked, pendant, prickly frail;

leaflets, short, straight, acuminate, downy, terminated by a long bristle. Spadix, large, spreading out in a loose panicle. Flowers, numerous, nearly fesh. Ber-

ries, very small. It is one of the most common species, and is used instead of ropes to bind untame elephants, to draw

heavy loads, and to make cables for ships. 3. C. fepticemum,

walking cane, rattan. Lour. (Kutatufre: Rheede. Arundo

rotang dicra: Pifon mant. 188. La Marek illuf. pl. 770.

f. 1.) "Internodes of the item, very long, awl-shaped, shing;
finishing; prickles recurved, spadix thick, with short branches. Stem. Stems smooth, gloydy, marked with dark spots; internodes three feet long, or more, unequal. Leaves, winged: leaflets, sword shaped, acuminate; armed, as well as the petioles, with short, recurved, prickles. Flowers, few, but rather crowded on the branches of the spadix. Berry, globular, of a moderate size, and a clear yellow colour. Seed, one, globular. It grows abundantly on both sides of the fronds of Maldace, whence it is exported into China and Europe; and on account of its long internodes and glossy surface, has been long preferred for walking canes. 4. C. caerulea. Lour. (Palmijuncus verus; Rumph. t. 54, rotang var. S. Linn.) "Prickles of the stem horizontal; spadix erect; three of the leaflets of the calyx very long." "Willd. Stem, single and not, as in other species, several from the same root; more than a hundred feet high, and about the thickness of a man's finger; very flexible, and of a yellowish brown colour; internodes very long, almost equal. Leaves long, winged; leaflets ovate lanceolate, three-nerved. Spadix racemose. Spadix oblong, prickly. The three interior leaflets of the calyx white, having the appearance of petals. Berry rather large, brown; common in forests of the East Indies. Its stem cut into thongs, is used to make cables and other ropes, canoe chairs, and many kinds of household furniture. 5. C. longifolius. Beauv. t. 9, 10. "Leaves, winged, flexible, reflexed, gibbons at the base, and of a yellowish brown colour; internodes very long, almost equal. Berry long, winged; leaflets ovate lanceolate, three-nerved. Spadix racemose. Spadix obovate, prickly. The three interior leaflets of the calyx white, having the appearance of petals. Berry large, brown; common in forests of the East Indies. Its stem cut into thongs, is used to make cables and other ropes, canoe chairs, and many kinds of household furniture. Stem. Stems slender, very supple; internodes short, equal, smooth, furnished near their summit with alternate, winged leaves: leaves, alternate, from eight to ten inches long; pinnate, extended beyond the leaflets, but prickly to the end. Berry round, about the size of a pea. A native of humid, rocky places, in the island of Anhonia. It is in general use in the East Indies as a riding cane. 11. C. Solanii, Lour. Stem. Stem very slender; leaves and prickles shorter; flowers dioecious. Nearly allied to the two preceding. It may possibly be only a variety of one of them; or it perhaps is an intermediate species. Stem very slender, the leaflets of a goose-quill, twenty feet high, very flexible and regular, pale and glossy; internodes a foot long; leaves winged. Berry of little size; Calyx with its unequal divisions; the three inner ones resembling petals, white, ovate-lanceolate, fringed. A native of Cochinchina, on the banks of rivers. 12. C. calaba, Willd. Gard. Taf. 135. f. 1. Linn. Pl. 775. (var. [2] copied from Gaertner. C. rotang var. S. Willd.; Calabasas, ten rotang zalak, Rumph. t. 57, f. 2. Fructus Baty. inflatus: pyritiformes. J. Benth. Herb. p. 401, with a figure.) "Prickles spreading; spadix radical," Willd. Stem. Stems, in a tuft, from the crown of the root, from ten to twelve feet long, winged; leaflets long, acuminate; petioles strong, flat, spreading, prickly. Spadix racemose, nearly radical. Berries rather large, top-shaped, of an irregular form from their pustules and other parts; round, thin, papery; scales somewhat cartilaginous; the upper ones erect, the root pressed close, imbricated downward; marked with a raised line along the middle, and a little reflexed at the tip, so as to make the berry rough to the touch. Seeds three, fixed to the bottom of the berry, two generally abortive, nearly globular, with a small umbilical fleshy, thick, rather heart-shaped lobe allied to them below. Fruit. Fruit rather larger than a pea, of a pleasant acid flavour, which has been compared to that of the pineapple. They are eaten either raw or pickled, and are a general de-store. A native of Java, and other parts of the East Indies. This species has the habit of a palm, and connects the others with the Sago Palm. See SAGUS.

**CALAMUS**, in Ancient Geography, a place situated on the Thracian Bosporus, which is said to have taken its name from the quantity of roses which grew there.

**CALAMUS aromatites**, in Botany. See ACORUS Calamus.

**CALAMUS ascotterpus**, or calamus flabellum, among Fowlers, signifies a bird call.

**CALAMUS indicus petrifolius**, in the Natural History of the Ancients, a name given to a substance found often in the fofible kingdom usually of about three inches long, half an inch broad, and one third of an inch thick, and covered all
over its surface with large round figures in form of radiated stars within. This very much resembled in external appearance the root of our common *Calamus aromaticus* of the thorns turned into stone; and seems to have been vulgarly supposed to be that substance petrifed. The more accurate among the early writers, however, have by no means countenanced so wild a conjecture; and Theophrastus, though he records the substance under that name, as it had no other in his time, yet joins it to the corals, which, he says, grow in the sea, and are vegetables; and adds, that these and this substance are properly the substance of another treatise, not of a history of stones.

This author's placing it among the corals is perfectly right, since the speciments of it now found are plainly no other than corals of the related kinds, which have been long buried in the earth.

**Calamus odoratus**, Mathioli, in Botany. See Andrographum narthex.

*Calamus pashoralis*, in Myres, the shepherd's pipe; an ancient musical instrument, the origin of the flute: at first, made of a straw or reed; *sevena* and *calamus*. It should seem of the *musaeus, monoes*, with holes to produce different tones, must have been suggested by the syrinx, or Pan's pipe, an instrument in which pipes of different lengths, of one tone each, without ventificies, produced the scale by moving them over the lips; but afterwards it was discovered, (as it is said, by Minerva,) that one single pipe, perforated, would furnish as great a variety of sounds, and more conveniently, than all the pipes of the *flute* Panis. Flutes were improved and multiplied, almost to infinity. See Pl. of ancient musical instruments, and Hist. vol. i. pp. 408, and 412.

According to Horace, the flute had undergone various changes and improvements from its first invention:

* Tibia non, ut nunc, orichalco vindis, tubaque
  *Arumula; sed tenuis simplexque, foraminis paucis,
  Apfinare.*

A. P. 202. See Flute.

*Calamus scripторius*, properly denotes a reed or rush to write with, answering to the use of the ancient stylus and modern pen. The ancient Egyptian calamus was a sort of *arrow aquatic* growing plentifully about Memphis, and on the banks of the Nile; whence it was also called *calamus Memphis, Niloticus*, &c.

*Calamus scriputorius*, in Anatomy, is a dilatation of the fourth ventricle of the brain; so called from its figure, which resembles that of a quill. See Brain.

*Calamus* also denotes a sort of measure otherwise called *canne, cane*, or *reed.*

**CALAMY, Edmund**, in Biography, an eminent divine among the English Nonconformists of the 17th century, was born in London in the year 1600, and educated at Pembroke Hall in the university of Cambridge; where he took his degrees of bachelor of arts, and bachelor of divinity, but on account of his hostility to the Armenian party, he was prevented from obtaining a fellowship in that society, to which his standing, talents, and literary acquirements entitled him. His industrious difpersion and religious character, however, recommended him to Dr. Felton, bishop of Ely, who made him his domestic chaplain, and gave him the vicarage of Swaffham prior in his neighbourhood. In this situation, he studied at the rate of 16 hours a day, and acquired that large fund of solid and useful learning, which enabled him to discharge, with great ability, the several offices which he afterwards occupied. After the death of the bishop in 1626, he was chosen one of the lecturers at Bury St. Edmund's, and resigned his vicarage. During his 10 years' residence in this place, he distinguished himself for the most part as a strict conformist; but when bishop Wren's articles, and the reading of the book of Sports were enforced, he avowed his dissent, made a public apology for his conduct from the pulpit, and, from this time, was regarded as an undistinguished and active nonconformist.

Being much in favour with the earl of Essex, he was presented by his lordship with the rectory of Rochford in Essex, which, though a valuable preferment, was, on account of the infalubrity of its situation, the occasion of permanent injury to his constitution. In 1639, he was chosen minister of St. Mary, Aldermanbury, and removed to London, where he took an active part in the controversy concerning church-government, which was then agitated. In 1640, he engaged with other writers in the composition of the famous book, entitled "Sacramentum," from the initials of the names of those that were concerned in it; viz. Stephen Marshall, Edmund Calamy, Thomas Young, Matthew Newcomen, and William Spurliow. This treatise, though written with a considerable degree of asperity, has been considered, not only by the Nonconformists, but by Dr. Wilkins, bishop of Chelfer, as a capital work against episcopacy. Calamy himself says of it, that it gave the first deadly blow to this system of church government. In 1641, Mr. Calamy was appointed by the house of lords a member of the sub-committee, which ineffectually attempted to accommodate the differences that subsisted with regard to religion. And he afterwards distinguished himself, by his learning and moderation, in the assembly of divines. He was also at this time one of the most eminent preachers in the city of London, and held in high estimation, particularly by the Presbyterian party. With this party he concurred in opposition to the Independents and Sectaries, and in testifying his disapprobation of the violent measures that brought on the king's death, an event which he ardently deprecated. During the usurpation of Cromwell, he withdrew from all public concerns; but he boldly opposed the project of his single government, which he undertook to prove to be both unlawful and impracticable. As soon as a favourable opportunity occurred, he was active in promoting the restoration of Charles II.; and he was one of the divines delegated to compliment the king in Holland on the occasion. In 1660, he was appointed one of his majesty's chaplains; and he was offered the bishopric of Litchfield and Coventry, which, after previous deliberation, he declined accepting. As soon as the act of uniformity was passed, he consecutively discontinued his public sermons in the church, and preached his farewell sermon at Aldermanbury, August 15, 1662. He joined several of his brethren, however, in a petition to the king for liberty to retain their public functions, and on the occasion made a long and moving speech; but this last effort for toleration proved ineffectual. After he had ceased to officiate in the church, he attended its public service: at one time, viz. December 28, 1662, when the appointed preacher did not appear, he was urged by some of the principal parishioners to take his place; but taking occasion to speak with freedom concerning the parish, and the situation to which he was then reduced, he was arrested by the lord mayor's warrant, and committed to Newgate. Doubts, however, occurred as to the legality of his confinement; and the hardship of his case being duly considered, he was liberated in a few days by the king's order. After the fire of London, he was driven over its ruins in a coach on his way to Enfield, and the fight so much afflicted him, that he died within two months afterwards, October 29, 1666.

Mr. Calamy was well acquainted with the subjects appropriate to his profession; as a preacher, he was plain and practical; he boldly avowed his sentiments on all necessary occasions. Several of his sermons, delivered on particular
peculiar occasions, were printed separately; and a set of five sermons, entitled "The godly Man's Ark, or a City of refuge in the Day of Dilectis," was published in 1683, 12mo, and became a very popular book in those times. Biog. Brit.

Calamy, Benjamin, a divine of the church of England, of the 17th century, was the son of the preceding by a second wife, and having received the rudiments of education at St. Paul's school, he completed his course at Catharine Hall, Cambridge, of which he became a fellow, and an eminent tutor. In 1677, he was chosen minister of St. Mary, Aldermanbury, and soon after appointed one of his majesty's chaplains in ordinary; and in 1682, he took his degree of doctor in divinity. The attention of the public was very much engaged by "A Discourse about a scrupulous Conscience," which he published in 1683. It was dedicated to Sir George Jefferies, afterwards the chancellor of notorious memory, whom he compliments as his friend and patron. This discourse, which was designed to give the crime and danger of separating from the established church on the pretext of a tender conscience, and which inculcates the notion, that "such wayward, skittish confessions, as doubt of and suspect the rights of the crown, ought to be well briddled and restrained," was much decried by one party, and extolled by the other. Mr. Thomas de Laune, a Non-conformist school-master, published a warm reply to this discourse, for which, and some other intertemporal publications, he was committed to Newgate, and sentenced to pay a fine, which he was unable to discharge; so that the event proved fatal to himself, his wife, and children. It is alleged, however, in vindication of Dr. Calamy, that he exerted himself in favour of this antagonist; and that though he avowed himself a strenuous advocate for the principle of religious intolerance, and was unfortunate in the election of his patron, he was far from postfiling the spirit of a persectator; and it is further said, that his opinions on this topic underwent some change before his death. In consequence of the high estimation in which he was held by the best men of all parties in the city of London, he obtained in 1683 the visiting of St. Lawrence, Jewry, and in 1685, a prebend in the cathedral church of St. Paul. Towards the close of the year 1685, his health declined in consequence, as it is said, of the calamitous state of public affairs, by which he was deeply impressed, and he died of a pleuritic complaint in January, 1686. He was distinguished by his zealous attachment to the government and church of England; and at the same time respected and esteemed for his piety and charity, by persons of different denominations. As a preacher, he was much applauded: and some of his polished sermons, published by his brother, have been frequently reprinted, and are at this day read and admired. Biog. Brit.

Calamy, Edmund, an eminent dissenting divine, was grand-son of the first Edmund Calamy, by a father of the same name, and born in London, in 1671. After a previous course of education in some private and public schools, he was placed under the tuition of Mr. Samuel Cradock, by whom he was instructed in logic, metaphysics, and natural philosophy. In 1688, he removed to the University of Utrecht, where he distinguished himself by his proficiency in philosophy and law, under De Vries, Vander Mayden, and Grevius, some of the most learned professors in their respective departments at that period. In these several stages of education, Mr. Calamy recommended himself to his tutors by the diligence of his application, and to all his associates by the sweetness of his temper, and the urbanity of his manners. Having declined the offer of a professorship in the college of Edinburgh, he returned from Holland to England, and spent some time at Oxford, without becoming a member of the university, availing himself of the patronage and counsel of Dr. Pocock, and Dr. Edward Bernard, and also of the instructive conversation of Mr. Henry Dodwell. Determining to devote himself to the profession of divinity, he directed his course of studies to this object; and having deliberately investigated the grounds of the controversy between the established church and the Separatists, he resolved to connect himself with the latter; and in 1692, he commenced the regular exercise of his ministry at a meeting-house in Black-fryars, London. In 1694, he was ordained; and this was the first instance of the kind that was performed among the dissenters, after the passing of the act of uniformity: and in 1703, he was chosen pillar of a large and respectable congregation in Westminster. To the dissenters he performed an acceptable service, by publishing "Baxter's History of his Life and Times," which he afterwards abridged, annexing an account of many of the ejected ministers, and an apology for their non-conformity. Baxter's history terminated with the year 1694; but Calamy's continuation extended to the year 1691; and was published in 1702, 8vo. A new edition of this work was published in 1713, in 2 volumes 8vo, in which the history of the Non-conformists is continued through the reign of king William and queen Anne, to the time of passing the occasional bill. The third edition of this work was, as we may reasonably imagine, very differently received by persons of different parties and opinions; and it occasioned a controversy of some extent and continuance, which, however, was carried on with a greater degree of candour and moderation than most controversies of a similar kind. In Scotland, which Mr. Calamy visited in 1709, he was received with singular respect; and each of the three Universities of Aberdeen, Glasgow, and Edinburgh, presented him with the degree of doctor in divinity. In 1718, he wrote a vindication of his grandfather, and several other worthy persons against the reflections of Archdeacon Eachard, in his History of England. About this time the question of subscription to the first article of the Church of England, relating to the Trinity, began to be agitated among the dissenters; Dr. Calamy, however, remained neutral, and he has incurred reproach among the present race of dissenting clergy, for not having joined those 53 ministers who carried it against 69 for the Bible, in opposition to human formulaires. As to the belief of the doctrine he was decidedly orthodox, which was also the case with several others; and he published a set of sermons in defence of it, which was dedicated and presented to the king, and for which he received from his majesty a gratuity of 50l. and likewise the thanks of several dignitaries of the church. In 1727, he completed his great design of preserving the history of ministers, &c. ejected and silenced, after the restoration, in a work intitled, "A Continuation of the Account of the Ministers, Lecturers, Malters, and Fellows of Colleges, and Schoolmasters, who were ejected and silenced after the Restoration in 1660, by, or before the Act of Uniformity, &c." 2 vols. Lond. 1727. This is a work of laudable industry and labour, and contains a valuable collection of memoirs, which would have been otherwise lost. In 1735, the rev. Mr. Samuel Palmer of Hackney published in two large volumes 8vo, under the title of "Non-conformists Memoir, an abridgment, with corrections, additions, and new anecdotes, of Dr. Calamy": 4 volumes, concerning the ejected and silenced ministers; and a new edition of this work, with improvements, has been lately reprinted. Dr. Calamy distinguished himself by other learned and useful writings, confining chiefly to sermons and controversial pamphlets. Of his publications, besides those already noticed,
ed. we may mention his "Inspiration of the Holy Writings of the Old and New Testament, in 14 Sermons;" and "His Defence of moderate Nonconformity," in 3 parts. The introduction to one of these tracts, representing the true state of the controversy between the Church and the Diftants, was so much approved by Mr. Locke, that he sent a message to our author informing him, that he thought it such a defence of nonconformity as could not be answer'd; and that, in adhering to the principles thus laid down, he had no occasion to be afraid of any antagonist. After an honourable course of professional services for which he was much esteemed, and after sustaining a character which was much respected, not only among dissenters, but also among the moderate members of the established church, both clergy and laity, with many of whom he lived in great intimacy; he closed his life June 3, 1792, in the 66th year of his age. In his funeral sermon by Mr. May, his character is very justly delineated, as "a person of sound judgment, extensive learning, sincere piety, of a candid and benevolent temper, and very moderate with regard to differences in points of religion." [C. 325.]

CALANDA, in Geography, a town of Spain in Arragon, on the river Guadaloupe; 3 leagues W. S. W. of Alcaniz.

CALANDRA, in Ornithology, a bird of the Alauda, or lark genus, called by some the calandrea lark, and which appears to be a general inhabitant of Sardinia, Italy, the South of France, Syria, Russia, and Tartary, and also of America. This is the calandra of old authors. Briffon calls it aluda major f. calabra: it is the calandra of the arctic zoology, of Aldrovandus, Willughby, and Edwards, and grofie alouette on calandre of Buffon. The length of this bird is about seven inches and a quarter. It builds its nest on the ground: sings finely, and imitates the notes of other birds extremely well. It is specifically distinguished by having the first exterior tail feather on each side white on the outer web; second and third with white: pectoral band brown. Gmel. &c. Obs. The bill and legs are pale grey: body above varied with brown and grey: chin white: throat with a white crescent, and beneath that a whitish band spotted with black: belly white: quill feathers dusky edged with white: the lesser ones with white: tail black.

CALANDRE, in Natural History, a name given by the French writers to an insect that does rull mischief in granaries. It is properly of the scarab clafs.

The female lays a considerable number of eggs, and the increase of these creatures would be very great, but nature has so ordered it, that while in the egg state, and even while in that of the worm, they are subject to be eaten by mites: these little vermin are always very plentiful in granaries, and they destroy the far greater number of these larger animals.

CALANDRO, in Geography, a town of Alsatian Turkey, in the province of Caramania; 100 miles S. of Cogni.

CALANGAY, in Natural History, a name given by the people of the Philippine islands to a species of parrot very common there; it is all over white, and has a cireil of white feathers on its head; it is of the size of a pigeon, and is easily kept tame, and learnt to talk. It is called also in some of the Philippines catata and abacay.

CALANNAS, in Geography, a town of Spain, in the county of Seville, near the river Odei; 40 miles N. of Seville.

CALANTIGAS, an island of the East Indian ocean, not far from Lingen, which see.

CALANUS, in Biography, a brachman or Indian philosoper, who followed Alexander the Great, in his expedition to India. Having passed 83 years without sickness, a feat of the colic made him impatient of life, and he resolved to render his exit as elegant as possible. Accordingly, having obtained permission of Alexander to burn himself, a funeral pile was erected and drawed with perfumes; and the whole army was arranged round it in battle array: upon which, Calanus, magnificently dressed, ascended the pile with a composed air, and saw the flame applied without emotion. When he was asked if he had any message to Alexander, he only replied, "I shall soon see him again at Babylon!" which declaration some have interpreted as prefigurative of his death in that city; and the last words he uttered were, "Happy hour of departure from life, in which, after the mortal body is consumed, the soul shall go forth into light." This event took place on the borders of the Indus, 20. C. 325. See Alexander.

CALAO, in Ornithology, synonymous with the modern Latin Bacucos, and Hornbill of the English. Petiver called the Philippine hornbill (Bicornis Linn.) Calao, and since that period, the French have adopted the expression as a generical name for the other species of the same tribe. Thus, Buffon has calao d'Abyfianie, calao d'Afrique, calao de Malabar, calao de casque rond, calao à bec rouge de Senegal, &c. all which refer to the corresponding synonyms, Abyfianian hornbill, African hornbill, Malabar hornbill, Helmet hornbill, red-billed hornbill, &c.

CALAON, in Ancient Geography, a river of Asia Minor, in Ionia, near the town of Colophon.

CALAPADA, in Geography, a cape on the north side of the isle of Candia, to the east of cape Melche, and about one-fourth part of the length of the island from the west end.

CALAPIS, in Ancient Geography, a colony of Asia Minor, in Bithynia; established, according to Strabo, by the inhabitants of Heraclia.

CALAPIZZATI, in Geography, a town of Naples, in the province of Calabria Citra; eight miles N.W. of Catrini.

CALAPPA, in Botany, Rumph. See Cocos mefera.

CALAPPA, in Entomology, a species of Cancer that inhabits America. The thorax is crenelated, with the posterior angles dilated, and very entire; hand-claws crested. Fabricius.

CALASCIO, in Geography, a town of Naples, in the province of Abruzzo Ultra; eight miles E. of Aquila.

CALASCIONE, a musical instrument much in use by the Turks and their musicians throughout the kingdom of Naples. It is a species of guitar, with only two strings, tuned 8th to each other. It has a very long neck, which is fretted. See fret. The Turks have an instrument of the like kind, with three strings, called in Arabic, dambara. Sometimes the strings are struck with a plectrum, and sometimes with a quill. See Plectrum. The tone is rough and coarse; the neck is sometimes fixed long. The frets amount to 15 or 16. But the Napolitans have a smaller sort called callifoneca. See Maj. Pl. of mod. ital.

CALASH, or Cales, a small light kind of chariot, or chair, with very low wheels, used chiefly for taking the air in parks and gardens.

The word is French, caleche, which Menage derives from the Latin, carrus, carri, carifius, carriffa, carrifis, calefis, calefis, caleche.

The calash is for the most part richly decorated, and open on all sides, for the convenience of the air, and protected; or at most enclosed with light mantlets of waxed cloth, to be opened or shut at pleasure.
In the Philosophical Transactions, we have a description of a new sort of calash going on two wheels, not hung on traces, yet easier than the common coaches; having this further advantage, that whereas a common coach will overturn if one wheel goes on a surface a foot and a half higher than that of the other, this will admit of a difference of three feet and one third, without danger of overturning. Add that it would turn over and over, that is, after being turned so as that the spokes are parallel to the horizon, and one wheel flat over the head of him that rides in it, and the other flat under him, it will turn once more, by which the wheels are placed in *flata quo*, without any disorder to the horse or rider. N. 172. p. 1628.

CALASIO, MARCIUS DE, in Bibliography, a Franciscan, professor of Hebrew at Rome, and author of "Concordance of the Hebrew Words in the Bible," in four volumes folio, printed at Rome in 1621, and at London in 1747. This Concordance has been highly approved both by philosophers and papists; and contains, besides the Hebrew words occurring in the Bible, the Latin version, and, in the margin, the variations between the LXX version, and the Vulgate. Besides, at the beginning of every article, there is a kind of dictionary, which gives the signification of each Hebrew word; and it furnishes an opportunity of comparing it with other oriental languages, viz. the Syriac, Arabic, and Cilacide.

CALASIRII, in Ancient Geography, the denomination of a people, who, according to Herodotus, formed a clan of Egyptians, amounting in number to 250,000 persons, devoted, from father to son, to the profusion of arms, without being attached to agriculture, or to any art. The kings of Egypt had always one thousand of them among their guards.

CALASIRIS, or CALASIS, in Antiquity, a linen tunic worn by the Phcenician, Egyptian, Roman, and other priests. We also find mention of the calasiris as worn by the soldiers and by women. In which half clothes, it seems to have been a habit in the women's gown, whereby it was drawn about the neck.

CALASTRI, in Geography, a town of Hindostan, in the Carnatic; 15 geographical miles E.N.E. from Tripetty, and 61 from Arcot: but major Rennell has some doubts concerning the accuracy of its position.

CALATABELLOTTA, formerly the Crimijs, a river of Sicily, with the waters of which the inhabitants overflow their beautiful rice grounds; and also a town of Sicily in the valley of Mazzara; six miles S.E. of Sciacca.

CALATAFIMI, a town of Sicily, in the valley of Mazzara; 19 miles E.S.E. of Trapani. It is built on a ridge between two valleys, and its inhabitants are estimated at 10,000.

CALATA-GERONE, or CALACIRONE, a royal city of Sicily, in the Val di Noto, situate about 20 miles from the sea, on the summit of a very high infalded hill, embosomed in thick groves of cypresses, and containing about 17,000 inhabitants, who live by agriculture and the manufacture of potters' ware. The road to it, though paved, is very steep, and difficult of passage for any animal except a mule or an ass. The inhabitants of this city are deemed the politest people in the island, and many of them live in a very elegant style. The natives have an idea that this city is very ancient, and that it figured as a republic among the Sicilians, during the zenith of Grecian glory, under the name of inland Gela or Gelone. The Saracens fortified it, but the Genoese wrested it from them; however, their force was dwindled into a shadow when the Normans arrived. Earl Roger availed himself, on many occasions, of the treaty va-
CALATRABA, Knights of, in History, a military order instituted in 1158, by Sancho III, king of Castile. In the following order. When the Moors proposed to attack the little city Calatrava, the Templars, who held it, surrendered it up to the king, on a promise of their inability to defend it; upon this, Diego Velazquez, a Cisterian monk, but a man of quality, perfumed Raymond, abbot of Fitero, a monastery of Cistercians, to beg Calatrava of the king. He obtained it; and Raymond and Diego put themselves in it; being followed by a great number of people who joined them out of zeal, for the defence of Calatrava. The Moors abandoning the enterprise, many of those who came to the defence of the city, entered under the order of the Cistercians; and that under a habit more fit for military than monastic exercise. Accordingly, they began to make excursions on the Moors; and this was the rise of the order of Calatrava.

The first grand master was Gracián; under whose government the order was approved by Alexander III. in 1159, and confirmed by Innocent III. in 1198. In 1289, Ferdinand and Isabella, with the consent of pope Innocent VIII., reunited the grand mastership of Calatrava to the Spanish crown; so that the kings of Spain are now become perpetual administrators, or great masters of this order. The badge of the order is a cross flory gules, which is worn at the stomach pendant to a ribbon.

Their rule and habit were originally those of the Cistercians, but their dres was a little shortened, on account of their exercises; and in process of time they were permitted a secular habit. The present habit of ceremony of the order is a mantle of white silk tied with a cordon and tassels, like those of the garter; and on the arm, a cross flory embroidered gules. Mariana observes, that this noble institution has gradually degenerated: the commanderies, which were formerly the reward of military merit, being frequently bestowed on minions and favourites. The order is said to have at present 34 commanderies, and eight priories, which produce an annual revenue of £50,000 a year.

As the order of St. James is distinguished by the epithet of the rich, and that of Alcantara is styled the noble, this of Calatrava is entitled the gallant.

Alphonus IX. having recovered Alcantara from the Moors, in the year 1212, committed the custody and defence thereof, next to that of the knights of Calatrava; and two years afterwards to the knights of the Pear-tree, or of St. Julian, another military order instituted at Peresio, in 1156, under the protection of Ferdinand II. king of Leon, and raised as a religious order under the title of St. Benedict, by pope Alexander III. in 1177, at the request of Gomez Fernandez, the first prior or grand master; and on which, they changed their name, and assumed the denomination of the knights of Alcantara. The king of Spain is sovereign of this order, which is in high estimation in that kingdom; the mantle worn by the knights of this order is of red silk, with a flap of five points embroidered on silver on the left breast. The badge is a cross flory of gold, enamelled vert, and worn at the bosom with a broad ribbon.

The religious order of Calatrava for ladies was instituted by Don Gonzalez Yanes in 1229. The badge of the order is the same as that worn by the knights of Calatrava, only embroidered on the front of the ladies' habits.

CALATUM, in Ancient Geography, a town of Britain, in the country of the Brigantes, according to Ptolemy. It is placed by Horsey at Appleby, and by Baxter at Kirkby-thorpe in Westmorland. But both the name, and the relative situation assigned to it by Ptolemy, might incline us to place it in or near the Galaterium Nemus, now the forest of Galters in Yorkshire. In the itinerary of Antonine, it is denominated Galacum, and placed 47 miles from Brometum.

CALAU, in Geography, a town of Leptis, which carries on a large trade in wool; 15 miles N.W. of Cothas.

CALAU-CEN, a town of Egypt; 12 miles S. of Abu Girgê.

CALAVON, a river of France, which runs into the Durance, about 8 miles W. of Caunaion.

CALAURES, in Ancient Geography, a river of Afia Minor, in Phrygia, which ran, according to Livy, between Chyra and Mandropolis.

CALAURIA, one of the Greek islands in the Argolic bay, situate, according to Strabo, in the bay of Hermione, over against Trozen, a maritime city of Argia, from which it was distant four furlongs, being itself 30 in compass. It was famous for a temple consecrated to Neptune, and an asylum. Democritus was an exile in this island, and was buried in the temple, after having poisoned himself, because he would not surrender to the order of Antipater. In the time of Paulus, the inhabitants and strangers paid great respect to the memory of this illustrious orator. This island was also denominated Irene. Anthedonias, Hypericis, and Poliddonia; however, Pliny distinguishes Irene from Calauria. Ancient tradition reports, that Latona gave this island to Neptune in exchange for that of Delos, whence the proverb, "Pro Delo Calauria." A fort of lighthouses, denominated "Calauri," was brought to the Greeks from this island, and applied by them to medical purposes.

CALAURIA, a town of Sicily, mentioned by Plutarch.

CALAUWE, in Geography, an inhabited island of the Indian Ocean, near Saleyrer, (which feel), and belonging to it. It is chiefly inhabited, as well as Bonarette in its vicinity, by Bruginefe.

CALABARI, or CALABAR, the name of two rivers, as well as of a district in Africa, called Cape Formosa. See CALABAR.

CALABARIA, a province of Africa, adjoining to Rio Real, or Royal River, called also Calabar; deriving its name from that river, which, though broad, is too shallow to be navigated by ships of burden. Near the coast, on the west bank of it, is a town called by the Dutch, Wyndorf, and by the negroes, from the great quantity of wine, Tooke; two branches spread to the east and west from the river, whose course runs constantly north. In the west branch is a road, three or four leagues long, for trading vessels; and the town Calabar is situated on the north side of this arm, and is a place of great trade with the Dutch, enclosed with palisadoes, watered on the south by the river, and defended on the north by a boggy wood. On the south of this rivulet is an island of an oval figure, at a distance from the continent, from which it is divided only by a shallow canal, the land low and covered with woods. About 12 leagues westward of Calabar, lies Beli, governed by one captain; and 20 leagues above the mouth is an arm of Rio Real, running east-north-east, and many other rivers are near the banks. The province of Kriker, belonging on the west bank of Moco, lies about 20 miles from the coast; on the back of Rio Real, southward of Moco, towards the coast, is the province of Bani, whose chief town is Cuba, the principal of this country, which extends westward from the river Calabar, as far as Sangma, and has ten under officers. The cannibals, negroes, inhabitants of the eastern banks of Calabar, circumcise the women that are marriageable, cut only the face, and sell the prisoners of war at Calabar. The canoes used by the Calbarian negroes are pointed at both ends,
ends. 60 feet long and six broad, with a fire place in the centre for dressing victuals, and planks across for rowsers. Near each rower hangs a quiver of arrows, in case of an attack; these rations being in continual war. The canoes carry 80 persons: the lives only are exposed to the damps of the air, the mourners being sheltered in the night by red mats spread upon poles, and fixed in the form of tents. At the end of Lontoba river, called by the Portuguese Rio do Santo Antonio, which is three leagues from the mouth of Rio Real, is a large town inhabited by negro traders, who traffic in slaves, which they bring from distant countries. Next to Lontoba is Old Calbaria, or Colborg river. The interjacent country is supplied with water: the town from Rio Real to ancient Calborg is 24 leagues in extent, north-north-west. See CALABAR.

CALBE, a town of Germany, in the circle of Lower Saxony, and district of Magdeburg, on the Saal; 20 miles S. of Magdeburg.

CALBE, or KATZE, a town of Germany, in the circle of Upper Saxony, and district of Brandenburg; 8 miles from Gerd-Jesen.

CALBERGA, a town of Hindostan, in the country of Hyderabad, formerly a large city, and the residence of the Kings of the Deccan; but now lost populus, since it ceased to be the seat of royalty; 8 miles W. of Hyderabad, and 110 miles S. of Vellore. N. lat. 17° 25', E. long. 77° 25'.

CALBIS, a town of Egypt, 3 miles N. of Rosetta.

CALCIS, in Ancient Geography, a river of Aisa Minor, in the Doric, according to Ptolemy, and in Asia, according to Pompianus Mela. They call it Indus, and says it is sprung from the mountains of Cbya, and that it received in its course 60 rivers, and more than 100 torrents. Its mouth was in the north-west part of the gulf of Glausus, W. of the promontory of Pelusium.

CALBONGA, in Geography, the inhabitants of a country in Africa, which is near the source of the river Río do Rey, or the Kings River, and borders on Bafra, at a distance from the coast. They are described as a wicked, deceitful, and filthy people, who are naked, except that they cover their private parts, and who bedazzle their bodies with various colours, and figures traced on their foreheads. They are represented as delinquent of natural affection, as well as sincerity, innumerable that parents fell their children, husbands their wives, and brothers their fathers. In this country, those that are declared innocent, who make an illusion and suck the blood out of their arms. See Río do Rey.

CALBUCO, a town of South America, in the kingdom of Chili, and military government of Chiloe, on the coast of the south Pacific Ocean, inhabited by Spaniards, Moluscos, and Indians, with one parish church, a convent of Franciscans, another of the Fathers of Mercy, and a college of Jesuits. In this town resides a Corregidor, who is nominated by the President of Chili. It is 180 miles S. of Valdivia. S. lat. 42° 40', W. long. 73° 32'.

C. ALBUM, in Entomology, a species of Cuculio found in Europe, and defended by Scopoli. This insect is variegated with copper and black, and is particularly distinguished by having an incurved line on the wing-edges at the base, next to the external angle.

C. ALBUM, is also the specific name of a well known species of the European Papilionae, called in England the comma butterfly. This insect has the wings angulated, fulvous spotted with black; posterior wings beneath marked with a white curved line resembling the letter C, whence its name. See C. ALBUM.

CALCADA, in Geography. See CALABAR.

CALCAGNIUM, in Middle Age Welsh, a tax or contribution paid by the neighbouring inhabitants towards the making or repairing of a manor canaley.

CALCAGNINI, Crisio, in Biography, a learned Italian, who was probably the illegitimate son of the apostle Paul. His monastic order was at Ferrara, and born in 1570. Having come to Rome, after the completion of his studies, under the patronage of Maximilian, and pope Julius II., he was employed in various embassies, and returned from Hungary, whither he had been sent to the church of Ferrara, in 1518, he was made professor of belles-lettres at the university of Ferrara, where he held till his death in 1541. He was distinguished by his promotion of the Academy, "Deu Elvetius," in that city, and by the liberal donation of his valuable library, and collection of mathematical instruments to the Franciscans of Ferrara, on condition of their preferring them for public use. He wrote much both in prose and verse. His prose works were collected by Frobenius at Basle in 1444. Among those that relate to antiquities are, the 3 books, "Quaelibet in Egyptia," and his treatises, "De Re Coptica," and "De Nautica," and "De Tabula, Taferinum, et Calculo," etc. Others relate to philosophy, morals, and politics. Before Cephalus published his system, he wrote a book to prove, "Quod China est, China moneatur." Enthusiastic highly applauds this author; though others condemn his style as laboured and overcharged with quotations. His poetical style was more effective. Three books of his Latin poems were published at Venice in 1553, with those of Tindia and Ariosto. Traboschi.

CALCANEUM, or CALCANUS, in Anatomy, the same as calcis, os calcis, or the heel bone.

It lies under the astragalus, to which it is articulated by ginglymus; behind it is a large protuberance, which makes the heel, and into which the tendon achillis is inserted.

CALCANTHUM, in Mineralogy. See Vitriol.

CALCAR, in Anatomy, the same with CALCANTHUM.

CALGAR, of Kelkar, John, in Biography, a painter of history and portrait, was born at Calgar in 1470, and excelled so much as a disciple of Titian, that several of his designs and paintings have been ascribed even by Goltzius to this eminent master. Sandart states, that he also imitated the works of Raphael so exactly, that some of his productions have been esteemed to be Raphael's own. His "Nativity," which was a much admired composition, and which exhibited the light proceeding from the infant, was in the possession of Rubens; and after his death purchased by Sandart, and sold to the emperor Ferdinand, by whom it was very highly prized. Calgar designed all the heads for the works of Vafari, and the anatomical figures in those of Vetus. He died in 1546. Pikington's Dictionary by Fitch.

CALCIS, in Botany, a conic projection from some part of a flower resembling a cock's spur. Tropozonum, the institution of, or Indian creas of the gardeners, is an influence of a calcar or spurred calyx; delphinium, or larkspur, of a calcar corolla; and orchis of a calcar nectary.

CALCIS, in Canthology, a species of Turbo, the shell of which is somewhat perforated and depressed; whose februous; spines above compressed and hollow. Linnaeus, etc. This is the Calcar of Rumphius and Argenville. Chemnitz gives several distinct varieties of this shell from India, the South Seas, and the Mediterranean.

CALCAR, a species of Nautilus, found in the Adriatic Sea, and described by Plancius among his microscopic shells.
flakes. It is distinguished specifically by the aperture being of a linear form, and having the joints of the whorls elevated.

This is a minute shell of an opaque white colour, and has been found on the shore of Shetland island.

**Calcari**, in *Fossilogy*, a species of *Cerambyx*, the colour of which is black: thighs with a single tooth: antennae and feet tawny. Fabricius. This is a small insect, and inhabits Germany.

Calcari, in *Geography*, a town of Germany, in the circle of Wasphalia, and duchy of Cleves, about 5 miles from the Rhine. It contains two convents and two churches, one for Roman Catholics, and one for Protestants, and all other sects are tolerated; 7 miles S.E. of Cleves. N. lat. 51° 47'. E. long. 5° 41'.

Calcari, in *Gips-making*, is the name of a small oven, or reverberatory furnace, in which the first calcination of sand and falt of pot-aloes is made, for the turning them into what they call fre.

**Calcariat**, in *Entomology*, a species of *Buprestis* that inhabits Germany. The wing-cases are bidentated, and somewhat frayed; thanks of the middle pair of legs toothed; body coppery. Scholl. Heribit gives this the name of *Buprestis argenniogin*.

Ob. This is of a small size, with four lines on the wing-cases, and a single black blue line on the thorax.

**Calcarius**, an European species of *Cerambyx*, of a violaceous-black colour, with rufous thighs, the posterior ones dentated. Sop. Ann. Hilt.

**Calcarius**, a species of *Cimex*, of a fuscous colour, with the abdomen fumaceous above, and the posterior thighs fuscous. Fabricius. Inhabits Europe.

**Calcaceous**, something that partakes of the nature and qualities of *calc*., or lime.

**Calcaceous cements.** See *Cements calcareous*.

**Calcaceous earth.** See *Lime*.

**Calcaceous earth, in Agriculture*, a sort of earth in which calcareous matter abounds. Earths of this kind have the following properties in common:—They become friable when burnt in the fire, and afterwards fall into a fine white powder, which is promoted, if after being burnt, they be thrown into water, by which a strong heat arises, and a partial solution takes place.

They cannot be melted by themselves into glasses in a close fire; but when burnt, they augment the cavaliety of pot-aloes, and they are dissolved in acids with effervescence. This earth is found pure, in the form of a powder, in some places, and called by chemists *litharge*. It is of a white colour, and is met with in some moory situations, at the bottoms of lakes, and in the fissures of free-stone quarries, in some of the midland districts.

In some countries, as Sweden, the colour varies to red and yellow. This is supposed to be lime-stone washed from the rocks, and pulverized by the motion of the water. It is, however, found in quantities too small to admit of any applications to agricultural purposes. It is frequently met with in a friable or compact slate in the form of chalk. The white chalk is the purest, yet it contains, according to Lord Dundonald, a little silicious, and about two per cent. of argilaceous earth. There is more fixed air in chalk than in any other calcareous earth, generally about forty per cent. It is also seen in a hard or indurated slate in lime-stone; and united with the sulphuric or vitriolic acid, in the form of gypsum, selenite, or what is generally termed plaster of Paris. It is likewise combined with clay in the form of marl. See *Lime-stone, Gypsum, and Marl*.

It is maintained by lord Dundonald, in his treatise on the "Connection of Agriculture with Chemistry," that it constitutes not only the surface, or soil, but likewise the under stratum of many countries to a very great depth; and that under this general name of calcareous matter are included chalk, marble, lime-stone, coral, shells, &c. The three first mentioned are frequently mixed with iron, and with different proportions of the simple earths, but are considered as calcareous when the proportion of that earth predominates. This material is capable of absorbing, and of retaining moisture, though in a considerably less degree than clay. By the action of the fire it becomes lime, and returns again to the state of chalk or calcareous matter, by exposure to the air or atmosphere." And it is slated by Dr. Fordece, in his "Elements of Agriculture and Vegetation," that when combined with gas or fixed air it is termed *vitrill*, but that when free from it, it is *calcite*; that calcareous earth, when mixed with clay, gives a greater friability to it than sand does; that it unites with sulphur, forming *bipar sulphur*; and with animal and vegetable substances, forming a *coprolite*. It prevents putrefaction. It attracts acids more strongly than volatile alkali or magnesia. If it be exposed to the air, it attracts from it the fixable air, and returns to the state it was in before it was burnt. Mould calcareous earth forwards putrefaction. It is soluble in water, and when reduced to the state of a powder, and applied to a soil, it is apt to be washed through it. Calcite volatile alkali will not precipitate calcareous earth, if dissolved in an acid; but fixed vegetable alkali will. This distinguishes it from the other earths. Vitriolic acid will not dissolve it, so as to form a clear solution; and if this acid be added to a solution of it in any other, it will make a precipitation.

It is suggested by the author of *Phytologia*, that one great use of calcareous earth consists in its uniting with the carbon of the foal in its pure or calcite state, or with that of the vegetable or animal remnants, during some part of the process of putrefaction; and thus rendering it insoluble in water, by forming an *arsenical carbonate*. This is a method by which an *arsenical carbonate* is produced by lime and sulphur, by which, proceeds, it is supposed, the carbon is rendered capable of being absorbed by the leaves of vegetable roots. The black liquor which flows from dunghills, it is thought, probably a fluid of this kind; but the author speaks hypothetically, as he has not verified it by experiment; and the carbon may be simply supported in the water by mucilage, like the coffee drunk at our tea tables; or may be converted into an *arsenical carbonate* by its union with the fixed alkali of the decaying vegetable matter, or by the volatile alkali which accompanies some stages of putrefaction." And a second mode by which it is believed to fulfill the purpose of vegetation "is by its union with carbo-cyclic acid, and rendering it thus soluble in water in its fluid state, instead of its being expanded into a gas; and thus a great quantity of carbon may be drawn up by vegetable absorptive vessels. In the practice newly invented of watering lands by driving streams over them for many weeks together, it has been said, that water from springs is generally more effectual, in promoting vegetation, than that from rivers; which, though it may in part be owing to the azotic gas, or nitrogen, contained in some springs, as those of Buxton and of Bath, according to the analysis of Dr. Priesley, and of Dr. Pearson, yet it is supposed to be principally owing to the calcareous earth, which abounds in all springs, which passes over marly foils, or through calcareous strata; and which does not exist in rivers, as the faults washed into rivers from the soil all seem to decompose each other, except the marine salt, and some magnesian salt which are carried down into the ocean. The calcareous earth likewise, which is washed into rivers, enters into new combinations, as into gypsum, or perhaps into siliceous sand, and subfuses." And a still farther mode in which
which calcareous earth may promote vegetation, it is conceived, "by its containing phosphorus, which by its union with it may be converted into an aspir, and thus rendered soluble in water without its becoming an acid, by the addition of oxygen. Phosphorus, it is supposed, is probably as necessary an ingredient in vegetable as in animal bodies; which appears by the phosphoric light visible on rotten wood during some stages of putrefaction; in which, it is supposed, the phosphorus is set at liberty from the calcareous earth, or from the fixed alkali, or from the carbon of the decomposing wood, and acquires oxygen from the atmosphere; and both warmth and light are emitted during their union. But phosphorus may, perhaps, more frequently exist in the form of phosphoric acid in vegetables, and may thus be readily united with their calcareous earth, and may be separated from its acid, by the carbon of the vegetable during calcination, and also during putrefaction, which may be considered as a slow combustion. The existence of a solution of phosphoric acid and calcareous earth in the vesicles of animals is proved by the annual renovation of the shells of crabfish, and by the fabrication of the egg-shells in female birds; and is occasionally observed, where it cements the wounds made on snail shells; or where it joins the present year's growth of a snail shell to the part where a membraneous cover had been attached for the protection of the animal during its state of hibernation; and lastly, it is further evident from the growth of the bones of quadrupeds, and from the deposition of callus to join them when they have been broken." It is therefore contended, that "many arguments may be adduced to show, that calcareous earth, either alone, or in some of the states of combination, mentioned above, may contribute to the nourishment and support of both animals and vegetables. First, because calcareous earth constitutes a considerable part of them, and must of course be either received from without, or formed by them, or both; and secondly, because from the analogy of all organic life, whatever has composed a part of a vegetable or animal, may again, after its chemical solution, become a part of another vegetable or animal; such, it is observed, is the transmigration of matter. See Lime and Natron.

Calcareous manures, are all such as abound in calcareous matter. Chalk, pounded lime-stone, lime, calcareous marl, shells, and various other substances of a similar kind are of this description. They are found particularly beneficial on all the flatter forts of soil when made use of in due proportions.

Calcareous soils, such as are composed of this sort of material in a large proportion. From their dry and friable nature, soils of this nature are in general well suited to the growth of most sorts of grain, as well as to some plants of the artificial graft kind, such as clover, foin, &c. See Soil.

Calcareous sand. See Lime-stone.

Calcaria, in Ancient Geography, thought by some to be Calysene, a city of Gallia Narbonensis, upon the Aurelian way, west of Aquitaine.

Calcaria, a town of Ancient Britain, 9 miles from Eburacum and 20 miles from Cambodunum, according to the itinerary of Antonine, placed by some at Tadeacor, by others at Newton-burke.

Calcaniares, in Geography, a jurisdiction of South America, in the country of Peru, situate between Cufco and the sea, and commencing 4 leagues west of the city of Cufco. The air in this jurisdiction exceeds that of all the other provinces, and accordingly it produces an excellence of all kinds of grain and fruits. In the hottest parts called "Lares" were formerly very large plantations of sugar canes, but for want of hands to cultivate them, they are now so diminished, that instead of 60 or 80,000 acres which they annually produced, they are now reduced to less than 30; but the sugar is of such an excellent kind, that without any other preparation than that of the country, it is equal both in colour and hardness to the refined sugar of Europe. This diminution of its sugar has greatly lessened the principal branch of its commerce.

Calcearium, or Calcarium, in Antiquity, a donative, or large bequest on the Roman soldiers for buying shoes. In the monasteries, calcarium denoted the daily service of cleaning the shoes of the religious.

Calcemonials, a denomination given by Cop to writings for the Melchites, on account of their adherence to the Council of Caledon. See COPHYS, MONOPTERIS, &c.

Calcemonialus is a term used by the jewellers for a defect in some precious stones, when, in turning them, they yield white spots, or flakes, like those of the calcendy, or chalcedony. This defect is frequent in granites and rubies. The lapidaries usually remedy it by hollowing the bottom of the stone.

Calceldon. See Chalceldon.

Calcena, in Geography, a town of Spain in Arragon, 14 miles S. of Tarracon.

Calcena, a term used by some medical writers to denote a morbid tartsorm in the body.


Gen. ch. Cal. one-leafed, with four, equal, spreading divisions; permanent. Car. monotelous, bilabiate, inverted; upper lip very small, constrictedly globular; lower lip large, inflated, concave, flipper-shaped, gaping before. Stam. filaments two, very short, within the upper lip; anthers inbent, two-lobed. Fil. stem superior, roundish; style very short; stigma rather obtuse. Peric. capsule somewhat conic, two-furrowed, two-celled, two-valved. Seeds numerous, egg-shaped.


A native of Peru and Chili. "C. orastra. Smith in loc. ind. 1. t. 3. C. dichotoma. Linn. in Flora, C. integrifolia. Linn. Supp. "'Stem branched, leaves egg-shaped, foliollad." Smith. Pubescent in all its parts. Roset annual, filiform. Stem slender, round, diichotomous, seven or eight inches high. Leaves small, opposite; upper ones sessile, truncate; lower ones corded and rather obtuse. Flowers small, yellow, on firm peduncles, solitary and terminating. Found in Peru by Humboldt. It flowered in the royal gardens at Paris in 1761. C. f. p. flaccid a. Linn. Sup. Mus. Amer. v. 1. t. 3. Smith in loc. ind. 1. t. 5. "Leaves perfoliately, arrow-shaped, downy on both sides." Smith. A hardy plant, very different in its appearance from all the other species. Stem about a foot and half high, round, pubescent, branched. Leaves opposite, triangular, or almost arrow-shaped, irregularly toothed, woolly and white beneath. Flowers yellow, large, in clusters at the tops of the branches, on simple or branched peduncles. Calyx large. Petals reflexing toward the leaves, but egg-shaped and feljite, not perfoliate. Found in North America by Maton, and in Peru by Joseph Jussieu. 5. C. c. Willd. La Mark. "Leaves sessile, oblong, acute, foliollad, flowers in cymes terminating the stems and branches." Stem about two feet high, downy. Leaves opposite, almost embracing the stem, resembling those of Rhamnthus crista gali, green above, downy and pale beneath. Found in Peru by Joseph Jussieu. 6. C. f. varii-<br>
I. C. varii-<br>
specie, Willd. La Mark. "Leaves linear, very entire, reflexed at the margin, downy beneath; stem smooth." Stem about a foot and half high, round, more or less branched. Leaves opposite, smooth and viscid above, especially when young. Flowers yellow, in terminating cymes on smooth, viscid peduncles. Found in Peru by Joseph Jussieu. 7. C. p. Wiliil. Smith in Ind. 1. t. 2. La Mark. "Scapes with few flowers; leaves rhomb-shaped, serrated." Leaves only from the root, veined, smooth, fringed with jointed hairs, narrowed at their base into petioles, about two inches long. Scapes two or three, as long again as the leaves, with two yellow flowers. Found by Commeron at the Straits of Magellan. 8. C. f. n. Willd. Smith in Ind. 1. t. 1. C. uniflora, La Mark. Pl. 15. t. 3. "Scapes one-flowered; leaves egg-shaped, very entire." Smith. Leaves all radical, scarcely an inch long, smooth, narrowed into a petiole at their base. Scapes as long again as the leaves. Flowers large, yellow, spotted with red; upper lip very short, vaulted; lower lip elongated, pedunculous, and swelling; edge membranous, folded back, angular. Found at the Straits of Magellan by Commeron. 9. C. Fothergillii, Willd. Acton. R. 1. t. 1. La Mark. Pl. 15. t. 1. copied from Hortus Kewensis. "Leaves petiolaris, very entire; peduncles in the form of scapes, one flowered." Biennial. Stems scarcely an inch high, subdivided near the root. Leaves scarcely an inch long, opposite, many-nerved, obtuse, hairy above, narrowed into petioles. Peduncles solitary or in pairs, twice the length of the leaves. Division of the calyx acute, bent in at the end, hairy without. Upper lip of the corolla yellow, crested, vaulted, a little shorter than the calyx; lower lip descending, four times as long as the upper, dilated in front, inflated, pale yellow underneath, above red at the sides, in front yellow with red spots, near the palate yellow; aperture large, open; filaments inserted into the sides of the corolla at the base of the aperture; stamens roundish, large; style thick, the length of the stamens; stigma thickened, flat. A native of Falkland islands, introduced by Dr. Fothergill in 1772.

Propagation and Culture.—The first and the last are the only ones hitherto cultivated in England. The first may

be easily raised from seeds found on a gentle hot-bed in the spring; the seedlings, when of a proper size, may be transplanted into the borders of the flower garden, where they will flower, ripe, and scatter their seeds; but when a delicate plant, it appears to most advantage in a thin-floe, in which, as it will grow from cuttings, it may be had in flower all the year, by planting them in succession. Curtis.

Calceolaria (L. Flem.). See Viola Calceolaria, and Opposita.

Calceolus, a genus formed by Tournefort corresponding with cypripedium of Linnaeus. Tournefort's name is that of nearly all the old authors.

Calceolus Lappamum (Sect. Lap.). See Aconitum Lappamum.

Calceolus Philippiensis (Petiv.). See Cormionia Philippiensis.

Calchas, in Fabulous History, a famous diviner, who followed the Greek army to Troy. He is said to have predicted, that the siege of Troy would last ten years, and that the fleet, which was detained in the port of Aulis by contrary winds, would not set sail till Agamemnon's daughter had been sacrificed to Diana. After the capture of Troy, he is said to have retired to Colophon, and to have died there with grief, because he could not divine what another man of his own profession, called Mephisto, discovered; thus fulfilling a prediction mentioned by Sophocles. According to which, Calchas was to die as soon as he should meet with his master in the art of divining. If Suidas is to be credited, one of the Sibyls was Calchas's daughter; her name was Lampas; she called him the Colophonian; and afflicted to her the oracles in verse. Gen. Dict.

Calchophonium lapit. Among the ancients, a name given to a stone of a black colour and considerable hardness, which, when cut into thin plates, and struck against any other hard body, gave a sound like that of brails; it seems to have been one of the hard black marbles.

Calchiana, in Geography, a town of Naples, in the province of Bacilena; 16 miles E. of Arezzo.

Calchraga, in Botany, (Lobel.). See Cithara maximus.

Calchragus, stone-breaking, an appellation given by some to the Scopelidium; by others to pimplernel, on account of their lithotrity quality.

Calchurriphe, in Muralinley, a species of earth or stone, in which magnesia is mixed with a notable proportion of calcareous earth and fock iron. The colour is blue or olive-green, of the consistence of clay: the latter contains no argil, but merely calcareous earth and magnesia tinged with iron: the former contains a larger proportion of calcareous earth. Both are found near Thionville: the former is used by potters. Kirwan's El. Min. vol. i. p. 146.

Caliincara, in Geography, a town of Italy, in the duchy of Tuscany; 14 miles E. of Pisa.

Calcination, in general, a substance is said to be calcined when it has been exposed to heat of a sufficient intensity to drive off every volatile matter, but short of that requisite for its fusion. A calx, therefore, was underlaid by the ancient chemists, to be a pulverulent substance no longer combustible or capable of further alteration by fire than that of vitrification.

As most of the metals were found to be reducible to fusible by a form of a combination of a melting heat, the term calx of metals was long particularly appropriated to them, and is still partially retained, though it has been chiefly supplanted by the more characteristic appellation of oxyle, which expresses the peculiar change that occurs in calcining metallic bodies by the absorption of oxygen. Calcination, therefore, expec...
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prefers the mode (or at least one mode), by which, in metals, this change is produced, and oxidation the circumstance of change. It is, however, obviously improper to confider the term calculation as synonymous with oxidation, even in speaking of metals, since the true original sense of the former term implies the agency of fire, whereas, oxidation may be produced as well by the action of acids, as by heat and air. Of the calexes, or calciated bodies, in which the change is totally independent of the abstraction of oxygen, calciated flints, calciated plaster of Paris, and calciated bariform, are common examples.

Calcination of gold and silver by electricity, was effected by Mr. Canton, who, by the heat of electrical explosions, produced numerous beautiful globules of transparent glass, and also others tinged with all the varieties of colour from those metals. He made it also probable that the black dust discharged from the brass chain, and other pieces of metal in such experiments, is the calx or glass of the metal reduced to smaller particles than the laws of optics require to produce colour. Hill of Elec. ed. 1775, vol. ii. p. 292. See Electrical Battery.

Calcinato, in Geography, a town of Italy, in the Bergamafo: seven miles S. E. of Bergamo.

Calcinato, a town of Italy, belonging to the state of Venice, in the Baffian, where the imperial troops were defeated by the duke of Vendome, in 1760: eight miles S. E. of Brescia. N. lat. 45° 25'. E. long. 9° 57'.

Calcinella, in Botany, the name given by Adanson to the Mattia papera of Poiret. See Pipperea.

Calcinelle of Adanson, the Sclavinian Venus Declarata.

Calcis, in Anatomy. See Os calcis.


Calcitrapa lattea. (Vail, act. 1719, p. 212.) See Centaurea, sicula, and calcitrapa.


The calcitrapoide form a section in the genus centaurea of Linnaeus, which consists of such species as have the spines of the calyx compound. Jussieu has formed a distinct genus for them, in which he has been followed by Gartner, Ventenat and Boise. The name is a hybrid production from the Latin calyx, the sole of the foot, and the Greek τειχος, which signifies to turn, and was suggested by the resemblance of the calyx, in these plants, to a machine used in war, consisting of sharp spikes, which turn on an axle when touched with the foot. It is called by the French chaine-trapez. See Centaurea.

Calcula, or Nalcua, in Ancient Geography, a town of the Atrebatii, in Ancient Britain, generally agreed to have been the same with the Colcum, in the Itinerary of Antonine, placed 22 miles from Venta Belgarum, or Winchester. Antiquaries are much divided about the precise situation of this place. See Atrebatii.

Calculare, in Antiquity, a sort of jugglers who practised flight of hand. Their art consisted in laying several calculi, or counters on the table, then covering them with cups, and shifting and changing them with dexterity, like what is practised by our jugglers.

Calculary of a pear, a congeries of little flory knots dispersed through the whole parenchyma of the fruit.

The calculus is no vital or essentia part of the fruit; the several knots whereof it consists being only so many concretions or precipitations out of the sap, as we see in urines, wines, and other liquors.

Calculation, the act of computing several sums, by adding, subtracting, multiplying, or dividing. See

Arithmetic. An error in calculation is never protected, or excused, by any sentence, decree, &c. In hiring accounts, there is always understood, fauro error calculi.

The word calculate is used in this sense, in allusion to the practice of the ancients, who used calculi, or little bones, in making computations, in taking syllables, and in keeping accounts. Arith. 1919; &c. as we now use counters, figures, &c.

A merchant or trader is said to have been mulcted in his calculation or accounts, when he has happened to take false measures, and has not succeeded in his undertakings as well as he expected.

Calculation is more particularly used to signify the computations in astronome and geometry, for making tables of logarithms, ephemerides, finding the times of eclipses, &c.

Calculation of clock and watch work. See Clock and Watch-work.

Calculation, in Music. D'Alembert, and many other theorists, and eminent mathematicians, are of opinion, that the calculation of ratios is of no use in practical music; supposing that a good ear and strong hand on instruments, where the tone depends on the performer, are a musician's bell guides for true intonation. In the preface to his Elem. de Mus, 2d edit. the great mathematician cautions theoretical musicians against the admission of mathematical or metaphysical principles in music. On this subject, he says: "It would be absurd to expect what is called demonstration: it is an achievement of no small importance, to have reduced the principal facts to a system consistent with itself and firmly connected with its parts; to have deduced them from one single experiment (the harmonics of a single string or found body), and to have established, on that foundation, the well common and essential rules of the art. In digressing and compounding M. Rameau's principles, I had no desire to multiply his calculations: I rather wished to simplify them as much as possible; so much was it to be feared that the generality of readers would be led into a belief, that all this arithmetic was necessary to form a practical musician. Calculation may, indeed, facilitate the intelligence of certain points in theory, such as the relation between the tones of the gamut and temperament; but the calculation necessary for treating these two points is so simple and trifling, that it merits no display. Let us not, therefore, imitate those musicians who believe themselves geometricalians, or those geometricalians who fancy themselves musicians, and, in their writings, heap figures on figures, imagining, perhaps, that this display is necessary to the art. The ambition of giving to their productions a scientific appearance, imposes only on the ignorant, and has no other effect than to render their treatises more obscure, and less instructive."

Calculator, a machine contrived and constructed by Mr. Ferguson, in the shape of an oratory, for exhibiting the motions of the earth and moon, and resolving a variety of astronomical problems. See an account of the construction, figure, and use of this machine, in Ferguson's Astronom., 4to. p. 283, &c.

Calculatores, in Antiquity, accountants who reckoned their sums by calculi. There were several servants under this denomination in great families. Children also at school were taught to practise the same. In the ancient canons we find a sort of diviners, or enchanters, confided under the denomination of calculatores.

Calculus, primarily denotes a little bone, pebble, or counter, anciently used in making computations, taking of suffrages, playing at tables, and the like. Hence the phrase ponere calculi, to denote a series of realess, and a multitude of others alluding to the use of these calculi in accounts.

Computation
Calculi were by the lawyers called calculuses, when they were either tides, or newly freed men; those of a better condition were denominated calculatores, or numerarii: ordinarily there was one of these masters in each family of distinction; the title of whose office was a calculus, or a mathematicus.

The Roman judges anciently gave their opinions by calculi, which were white for absolution, and black for condemnation. Hence calculus albatus, in ancient writers, denotes a favourable vote, either in behalf of a person to be absolved and acquitted of a charge, or elected to some dignity or post; as calculus niger did the contrary. This usage is said to have been borrowed from the Thracians, who marked their happy or prosperous days by white, and their unhappy by black pebbles, put each night into an urn. Hence also the phrases, signare, notula aliquid albo, nigrum lapillo seu calculo.

Besides the diversity of colour, there were some also which had figures or characters painted or engraved on them; as those which were in use in taking the suffrages both in the senate and at assemblies of the people. The letters marked upon these calculi were U. R. for ut regas, and A. for antiqua; the first of which expressed an approbation of the law, the latter a rejection of it. Afterwards the judges, who fat in capital causes used calculi marked with the letter A. for absolvus, C. for condemnus, and N. L. for non licet; signifying a more full information was required.

We may also mention another species of calculi used at the public games, whereby the rank and order in which the athletes were to fight were determined. If for instance they were twenty, then twenty of these pieces were cast into an urn; each ten were marked with numbers from one to ten, and the law was, that each of those who drew, should fight him who had drawn the same number. These were called calculi athletici.

Calculus is also used in Ancient Grammatic Writers for a kind of weight equal to two grains of cicer. Some make it equivalent to the libra, which is equal to three grains of barley. Two calculi made the cerasum.

Calculus also denotes a certain method of performing mathematical investigations and reformation. Thus, we say the antecedent calculus, the arithmetical or numeral calculus, the algebraical calculus, the calculus of derivations, the differential calculus, the exponential calculus, the fluxional calculus, the integral calculus, the literal or symbolical calculus, &c. See the following articles.

Calculus, Antecedental. This is a geometrical method of reasoning without any consideration of motion or velocity, applicable to every purpose, to which fluxions have been or can be applied. It was invented by James Glennie, eq. A. M. and fellow of the Royal Societies of London and Edinburgh, as early as 1774, but not published till the year 1793, when it was printed in London for G. G. I. and I. Robinsons, Paternoster-row. As he derived it from an examination of the antecedents of ratios, having given conceptions and a given standard of comparison in the various degrees of augmentation and diminution, which they undergo by composition and decomposition, he denominated it the Antecedental Calculus. It is certainly founded on principles admitted into the very first elements of geometry, and repeatedly made use of by Euclid himself. The inventor of this calculus does not in imitation of modern mathematicians talk of the powers of magnitudes and quantities, but considers every expression in it as truly and strictly geometrical, or rather as universally metrical in a geometrical form. For although the general formula in his universal comparison, from which it is derived in an easy, simple, direct, and convenient manner, are established on the same principles with those of Euclid's elements of geometry, and are deduced in a demonstrative way from an application of some of the truths contained in those elements to the doctrine of ratios or proportion, they are, strictly speaking, generally metrical, and extend not only to geometry, but also to algebra and arithmetic, when the standard of comparison is supposed to become one or arithmetical unity. The transitions from them in their geometrical forms to their algebraic and numerical ones, are as Mr. Glencij has observed, fo natural, fo scientific, and fo beautiful, that they cannot fail to furnish the mind with the highest pleasure and satisfaction, in pointing out, as it were, at one general view the connexion between these different sciences, and unfolding the reasons of their various operations, from the same indisputable and mathematical principles. He has not, like other mathematicians, in considering ratio confused himself to any particular modification of it; but he has regarded it as a magnitude peffalling all the measurable affections of any other magnitude, viz. addition, subtraction, multiplication, division, and ratio or proportion, or, as admitting, like other magnitudes, of augmentation or diminution, of increase or decrease. He is the first person, that we know of, who has roundly and expressively considered ratio or proportion as an affection of ratio, which it most unequivocally is. And by applying the elements of geometry to this consideration of it, he has extended the geometrical analysis indefinitely farther than any one before him, either among the ancients or moderns, as far as we are able to discover, has carried it. That he formed the design of applying geometry to ratios under this conception of them, as magnitudes sui generis, capable of all the possible degrees of increase and decrease, though they know no diversity of dimension in respect of kind, being homogeneous, and differing not in kind, but only in degree, and actually made such an application of it when he could not have been above eighteen or twenty years of age, is evident from his own performances. For in a short introduction to a paper read before the Royal Society of London, the 6th of March, 1777, and published in their transactions, which is entituled, "The general Mathematical Laws, that regulate and extend Proportion universally; or a Method of comparing Magnitudes of any kind together, in all the possible Degrees of Increase and Decrease," he makes use of the following words:

"The doctrine of proportion laid down by Euclid and the application of it given by him in his elements, form the basis of almost all the geometrical reasoning made use of by mathematicians both ancient and modern. But the reasoning of geometries with regard to proportional magnitudes have seldom been carried beyond the tricpate ratio, which is the proportion that similar folds have to one another, when referred to their homologous linear dimensions. This boundary however comprehends but a very limited proportion of universal comparison, and almost vanishes into nothing when referred to that endless variety of relations, which must necessarily take place between geometrical magnitudes in the infinite possible degrees of incrase and decrease. The first of these takes in but a very contracted field of geometrical comparison; whereas the last extends it indefinitely. Within the narrow compass of the first, the ancient geometers performed wonders; and their labours have been pulld still farther by the ingenuity and indefatigable industry of the moderns. But no author, that I have been able to meet with, gives the least hint or information with regard to any general method of expressing geometrically, when any two magnitudes of the same kind are given, what degree of augmentation or diminution
diminution any one of these magnitudes must undergo, in order to have to the other any multiplicate or submultiplicate ratio of these magnitudes in their given state; or any such ratio of them, as is denoted by fractions or surds; or to speak still more generally a ratio, which has to the ratio of the first-mentioned of these magnitudes, to the other the ratio of any two magnitudes whatever, of the fame but of any kind. Neither have I been able to find, that any other author has flown geometrically, in a general way, when any number of ratios are to be compounded or decompounded with a given ratio, how much either of the magnitudes in the given ratio is to be augmented or diminished, in order to have to the other a ratio, which is equal to the given ratio, compounded or decompounded with the other ratios. To investigate all these geometrically, and to fix general laws in relation to them, is the object of this paper; and, as it treats of a subject as new as it is general, I flatter myself will not prove unacceptable to this learned society. It would be altogether superfluous for me to mention the great advantages that must necessarily accrue to mathematics in general, from an accurate investigation of this subject, since its influence extends more or less to every branch of abstract science, when any data can be affermated for reasoning from. I shall in a subsequent paper take an opportunity of showing, how from the theorems afterwards delivered in this, a method of reasoning with finite magnitudes geometrically may be derived without any consideration of motion or velocity, applicable to every purpose, to which fluxions have been applied. He then defines magnitude to be "that which admits of increase or decrease," and quantity to be "the degree of magnitude," observing, that "by magnitude he means, beside extension, every thing which admits of more or less, or what can be increased or diminished, such as ratios, velocities, powers, &c.

A short performance of his, printed in Latin, in 1775, entitled "Leges Metaphyseic, seu Principia Mathematica, quæ Omina fere ad Magnitudinum Rationes, Rationumque Relationes spectantia universaliter gubernant et indefinito proferunt," he gives the fame metaphysical definitions of magnitude and quantity, with a declaration of what he means by magnitude, viz.

"Magnitudo est id, quod angenti vel dimini potest."  

"Quantitas est gradus magistitudinis,"  

"Per magnitudinem, praeter extensionem, omnia, quæ angenti vel dimini potiffit, habet rationes, velocitates, vires, &c. intellige."  

And in his Universal Comparison itself he says, "When I speak of magnitude, I mean to be understood as taking it in its general, abstracted, unlimited, and metaphysical acceptation, viz. to be whatever admits of more or less, of increase or decrease; and by quantity I mean the degree of magnitude." And to prevent any misconception of his meaning or intention, in regard to his mode of expressing magnitudes geometrically, and connecting them together by means of the customary signs, he makes use of the following words: — "When I mention the sum of magnitudes, or speak of them as additive or subtractive, I only mean that they are to be taken with or from other magnitudes of the same kind. The signs plus and minus are only intended to denote such aggregates and differences, or to connect magnitudes together in these relations, and by no means to convey any numerical ideas in the following theorems or formula, or to imply in themselves any sort of mystery, or even meaning, independent of the magnitudes thus connected. By A. B, &c. I mean a fourth pro-

\[ A, B, C, D, E, F, \text{ et cetera.} \]
of MN to NO and NR to OP, the magnitude LN, which has to B the ratio compounded of the ratio of A to B, and the ratio of equality B to B is expressed by $B + A - B$. In like manner if HI, KY be parallel to VO and KY to NR, and KL be a fourth proportional to OP, QR, and LN, or to A, B, and B + A - B, it will be equal to \[
\frac{A - B}{B} + \frac{n - 1}{2} + \frac{n - 2}{2} \cdot \frac{A - B}{B} + \frac{C}{B^2} + &c \ldots to \pm \frac{C}{B^{n-1}} \]
has to B such a multiplicate ratio of B - C to B as is expressed by the number n.

That $B + \frac{nr}{q} \cdot \frac{A - B}{B} + \frac{nr - q}{2q} \cdot \frac{A - B}{B} + \frac{nr}{q} \cdot \frac{r - q}{2q} \cdot \frac{A - B}{B} + &c \ldots to \pm \frac{C}{B^{n-1}}$ has to B such a multiplicate ratio of $B + \frac{r}{q} \cdot \frac{A - B}{B} + \frac{r - q}{2q} \cdot \frac{A - B}{B} + &c \ldots to \pm \frac{C}{B^{n-1}}$ has to B as is expressed by the number n.

Again, if VK be a fourth proportional to OP, QR, and NK, or to B, A - B, and $B + \frac{2}{1} \cdot \frac{A - B}{B} + \frac{2}{1} \cdot \frac{2 - 1}{2}$, $\frac{A - B}{B}$, it will be equal to $A - B + 2 \cdot \frac{A - B}{B} + \frac{3}{1} \cdot \frac{A - B}{B}$, and VKN will of course be equal to $B + 3 \cdot \frac{A - B}{B} + \frac{3}{1} \cdot \frac{3 - 1}{2} \cdot \frac{A - B}{B}$, and $\frac{A - B}{B} + 2 \cdot \frac{A - B}{B}$, or to $B + \frac{3}{1} \cdot \frac{A - B}{B} + \frac{3}{1} \cdot \frac{3 - 1}{2} \cdot \frac{A - B}{B}$, and $\frac{A - B}{B} + \frac{3}{1} \cdot \frac{A - B}{B} + \frac{3}{1} \cdot \frac{3 - 1}{2} \cdot \frac{A - B}{B}$, wherefore the magnitude of the same kind with A and B, which has to B the triplicate ratio of A to B, or, which comes to the same thing, the ratio, that arises by compounding the triplicate ratio of A to B, with the ratio of equality $B$ to B, is geometrically expressed by $B + \frac{3}{1} \cdot \frac{A - B}{B} + \frac{3}{1} \cdot \frac{3 - 1}{2} \cdot \frac{A - B}{B}$, and universally by the same geometrical reason as is found that $B + \frac{n}{1} \cdot \frac{A - B}{B} + \frac{n - 1}{2} \cdot \frac{A - B}{B} + \frac{n - 2}{3} \cdot \frac{A - B}{B} + &c.$ to $\frac{A - B}{B}$ has to B such a multiplicate ratio of A to B, or of $B + A - B$ to B, as is expressed by the number n. And as $A - B$ may be equal to any magnitude C of the same kind with A and B, the expression $B + \frac{n}{1} \cdot C + \frac{n - 1}{2} \cdot C + \frac{n - 2}{3} \cdot C + &c \ldots to \pm \frac{C}{B^{n-1}}$ is a magnitude of the same kind with C and B, that has to B such a multiplicate ratio of B + C to B as is expressed by the number n.

The foregoing expressions are obtained geometrically and correctly when A is greater than B. But if A be less than B, and be represented by EM or FN, we have FM equal to $B - A$, and by proceeding in an exactly similar manner we get the geometrical expression $B = \frac{n}{1} \cdot \frac{B - A}{B} + \frac{n - 1}{2} \cdot \frac{B - A}{B} + &c \ldots to \pm \frac{B - A}{B}$, for the magnitude of the same kind with A and B, that has to B such a multiplicate ratio of A to B, or of

This then being premised, it can be generally, and at the same time very briefly proved, that $B + \frac{r}{q} \cdot \frac{A - B}{B} + \frac{r}{q} \cdot \frac{A - B}{B} + &c \ldots to \pm \frac{C}{B^{n-1}}$. 

\[B = \frac{n}{1} \cdot \frac{B - A}{B} + \frac{n - 1}{2} \cdot \frac{B - A}{B} + &c \ldots to \pm \frac{B - A}{B} \]
CALCULUS.

\[
\begin{align*}
\frac{-r \cdot A-B}{B} + \frac{q \cdot r-q \cdot r-z \cdot A-B}{q} + \&c. = \frac{m-1}{z} \cdot A-B^1 + \&c. & \quad \text{since} \quad \frac{r \cdot A-B^1}{B} + \&c. \quad \text{are then respectively less than} \quad \frac{m-1}{z} \cdot \frac{A-B^1}{B} + \&c. & \quad \text{since} \quad \frac{r \cdot A-B^1}{B} + \&c. \quad \text{are then respectively less than} \quad \frac{m-1}{z} \cdot \frac{A-B^1}{B} + \&c. \\
\end{align*}
\]

has to B such a ratio, as has to the ratio of B + A - B to B, or of A to B, the ratio of r to q, be the ratio of r to q what it may, by taking any multiples whatsoever of these ratios and the fame multiples of r and g. For the sake of perspicuity let these magnitudes, and their multiples, stand in the following manner:

<table>
<thead>
<tr>
<th>The magnitudes</th>
<th>Their multiples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st. ( r )</td>
<td>Of the 1st. ( nr )</td>
</tr>
<tr>
<td>2nd. ( q )</td>
<td>Of the 2nd. ( mq )</td>
</tr>
<tr>
<td>3d. ( r \cdot A-B ) + &amp;c. \quad B</td>
<td>3d. ( B = \frac{nr \cdot A-B}{2q} + &amp;c. \quad B )</td>
</tr>
<tr>
<td>( r \cdot A-B ) + &amp;c. : B</td>
<td>( \frac{nr \cdot A-B}{2q} \cdot A-B + &amp;c. : B )</td>
</tr>
<tr>
<td>&amp;c. : B is equal to, or becomes the ratio ( B + ) ( \frac{m}{1} \cdot A-B + \frac{m}{1} \cdot \frac{m-1}{2} \cdot A-B^1 + &amp;c. )</td>
<td></td>
</tr>
<tr>
<td>( \frac{A-B^1}{B} ) + &amp;c. : B is equal to, or becomes the ratio ( B + ) ( \frac{m}{1} \cdot A-B + \frac{m}{1} \cdot \frac{m-1}{2} \cdot A-B^1 + &amp;c. )</td>
<td></td>
</tr>
</tbody>
</table>

Now it is evident, that if \( nr \) be equal to \( mq \), by substituting \( mq \) for \( nr \), the ratio \( B + \frac{nr}{q} = \frac{A-B}{B} + \frac{nr}{q} \cdot \frac{A-B}{B} \) + \&c. : B is equal to, or becomes the ratio \( B + \) \( \frac{m}{1} \cdot A-B + \frac{m}{1} \cdot \frac{m-1}{2} \cdot A-B^1 + \&c. \) since \( \frac{nr}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) are then respectively greater than \( \frac{nr}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) or \( \frac{nr}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) and \( \frac{nr}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) is, of course, a greater ratio of greater inequality than the ratio \( B + \frac{m}{1} \cdot A-B + \frac{m}{1} \cdot \frac{m-1}{2} \cdot A-B^1 + \&c. \) + \&c. : B is. And it is no less evident that, if \( nr \) be less than \( mg \), the antecedent \( B + \frac{nr}{q} \cdot A-B + \frac{nr}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) is less than the antecedent \( B + \frac{m}{1} \cdot A-B + \frac{m}{1} \cdot \frac{A-B}{B} ^{1} + \&c. \) is.

Here then are four magnitudes, and any equimultiples being taken of the 1st and 3d, and also any equimultiples being taken of the 2d and 4th, it is proved that, if the multiple of the 1st be equal to the multiple of the 2d, the multiple of the 3d is also equal to the multiple of the 4th; if greater, greater; and if its, less. Wherefore \( (5, 6, 7, 8) \) the magnitudes themselves are proportional, or the ratio \( B + \frac{r}{q} \cdot A-B + \frac{r}{q} \cdot \frac{A-B}{B} ^{1} + \&c. : B \) is to the ratio \( B + \frac{r}{q} \cdot A-B + \frac{r}{q} \cdot \frac{A-B}{B} ^{1} + \&c. : B \) as \( r : q \) whatever be the ratio of \( r \) to \( q \).

Having thus fully explained the doctrine of proportion, on which this calculus is grounded, we will briefly illustrate Mr. Genie's derivation of it from the same, and then shew, with how much ease and facility both the differential and fluxionary calcui may be derived from the same source, and in a manner too altogether unexceptionable.

If for \( R \) and \( Q \) we substitute \( r \) and \( q \) in the 1st and 5th formulae, in the 3d theorem of his Universal Comparison, they become respectively \( A + \frac{r-q}{q} \cdot A-B + \frac{r-q}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) and \( B + \frac{r-q}{q} \cdot A-B + \frac{r-q}{q} \cdot \frac{A-B}{B} ^{1} + \&c. \) and the last of which is immediately derived from the first, by substituting for \( A \) in it, where it stands unconnected with \( B \) by the sign minus, \( B + A-B \), which is equal to \( A \), and is the very magnitude, which we have just proved to have to \( B \) a ratio, which has to the ratio of \( B + A-B \) of or \( B \) to \( A \) the ratio of \( r : q \), even when \( r \) has to \( q \) the ratio of any two homogeneous magnitudes whatever.

Mr. Genie, however, takes the 1st of these two formulae, and supposes \( A+N \) to be in the first place substituted in it every where for \( A \). By this substitution he gets \( A+N \cdot \frac{A-B}{B} ^{1} + \&c. \) for the magnitude, which has to \( B \) the duplicate ratio of \( A+N \) to \( B \), exceeding the magnitude \( A+A \cdot \frac{A-B}{B} ^{1} \), which has to \( B \) the duplicate ratio of \( A \) to \( B \), by \( \frac{2A+N+2}{B} \). In like manner he gets the example: $\frac{5A}{2}$.
cefs of the magnitude, which has to B the triplicate ratio of \( A + N \) to B above the magnitude, which has to B the triplicate ratio of \( A \) to B, equal to the geometrical expression
\[
\frac{3A^2N + 4A^3N^2}{B^3}.
\]
And he thus finds, in general, that the exces of the magnitude, which has to B such a ratio, as has to the ratio of \( A + N \) to B the ratio of \( r \) to \( q \), above the magnitude, which has to B such a ratio, as has to the ratio of \( A \) to B, the same ratio of \( r \) to \( q \) is geometrically expressed by
\[
\frac{r \cdot A^{\frac{r}{q}} \cdot N + r \cdot \frac{r^2 - q^2}{2q} \cdot A^\frac{r^2 - q^2}{q} \cdot N^2 + \frac{r^3 - q^3}{2q} \cdot A^\frac{r^3 - q^3}{q} \cdot N^3}{B^q}
\]
Precisely in the same manner he makes it appear, that the exces of the magnitude, which has to B such a ratio, as has to the ratio of \( A \) to B the ratio of \( r \) to \( q \), above the magnitude, which has to B such a ratio, as has to the ratio of \( A - N \) to B the ratio of \( r \) to \( q \) is geometrically expressed by
\[
\frac{r \cdot A^{\frac{r}{q}} \cdot N^2 - r \cdot \frac{r^2 - q^2}{2q} \cdot A^\frac{r^2 - q^2}{q} \cdot N^3 + \frac{r^3 - q^3}{2q} \cdot A^\frac{r^3 - q^3}{q} \cdot N^4}{B^q}
\]
But if \( A + N \) and \( A - N \) stand to A in relations nearer to that of equality than by any given or assigned magnitudes of the same kind, each of these general expressions becomes
\[
\frac{r \cdot A^{\frac{r}{q}} \cdot N}{B^q}.
\]
Thus he calls the antecedent of the magnitude, which has to B such a ratio, as has to the ratio of \( A \) to B the ratio of \( r \) to \( q \).

Now if \( N = 0 \), the antecedent of \( A \) be denoted by \( \dot{A} \) or \( \ddot{A} \) (for the notation does not at all alter the case) the antecedental
\[
\frac{r \cdot A^{\frac{r}{q}} \cdot N}{B^q}
\]
becomes
\[
\frac{r \cdot A^{\frac{r}{q}}}{B^q}.
\]
or
\[
\frac{r \cdot A^{\frac{r}{q}}}{B^q} = \dot{A} \text{ and has to } \dot{A} \text{ or } \ddot{A} \text{ the ratio of } \frac{r}{q}.
\]
If \( q = 1 \) and \( r = 2 \), \( 3 \), \( 4 \), &c. it gives
\[
\frac{2A^{\frac{3}{2}}}{B}, \frac{3A^{\frac{3}{2}}}{B}, \frac{5A^{\frac{3}{2}}}{B}, \text{ &c. respectively. If } \frac{r}{q} = 2, \text{ &c. then gives } \frac{A^{\frac{3}{2}}}{2B^{\frac{3}{2}}}, \frac{A^{\frac{3}{2}}}{3B^{\frac{3}{2}}}, \frac{A^{\frac{3}{2}}}{4B^{\frac{3}{2}}}, \text{ &c. respectively. And if } q = 1 \text{ and } r = \sqrt{\frac{5}{3}}, \sqrt{\frac{7}{4}}, \sqrt{\frac{13}{5}}, \text{ &c. it gives } \frac{A^{\frac{3}{2}}}{2B^{\frac{3}{2}}}, \frac{A^{\frac{3}{2}}}{3B^{\frac{3}{2}}}, \frac{A^{\frac{3}{2}}}{4B^{\frac{3}{2}}}, \text{ &c. respectively, and so on.}
\]
Mr. Glennie then makes use of the last of these two formulæ, which is the 5th of theorem 3d, to come at the same conclusions. By it, when \( A \) stands to B in a relation nearer to that of equality than by any given or assigned magnitude of the same kind, the exces of the magnitude, which has to B such a ratio as has to the ratio of \( A \) to B the ratio of \( r \) to \( q \), above B is generally expressed by
\[
\frac{r \cdot A^{\frac{r}{q}}}{B^q} \text{ or by } \frac{\dot{A}}{\ddot{A}} \text{ or by } \frac{\dot{A}}{\ddot{A}} \text{ since in this relation of } (A \text{ to } B),
\]
\( A - B \) may be denoted by \( \dot{A} \) or \( \ddot{A} \); which expression is always as the measure or quantity of the ratio, that the said formula has to B, whatever be the relation of \( A \) to B. For in the simple, duplicate, triplicate ratios, &c. it gives \( \dot{A}, 2A, 3A, \text{ &c. and in the subduplicate, subtriplicate ratios, &c.}
\( \lambda, \lambda, \lambda, \text{ &c. or } \lambda \lambda, \lambda, \text{ &c. But if the ratio of } \frac{r}{q} \text{ to } \dot{A} \text{ to } \ddot{A}, \text{ which denotes the relation between the quantities of the ratios, that the magnitude expressed by this formula and } \dot{A} \text{ have respectively to } B, \text{ be compounded with the ratio of these magnitudes themselves, when } A \text{ has to } B \text{ any ratio whatever, or with that of}
\]
\[
\frac{\dot{A}^r}{B^q} \text{ to } A \text{ we get the ratio } \frac{\dot{A}^r}{B^q} \text{ to } A \cdot \dot{A}, \text{ which}
\]
is equal to the ratio of
\[
\frac{\dot{A}^r}{B^q} \text{ to } B \text{ the ratio of the antecedental of } \frac{\dot{A}^r}{B^q} \text{ and } \dot{A} \text{ as found above.}
\]
It is certainly worthy of remark, that the antecedental of any such magnitude as \( \frac{\dot{A}^r}{B^q} \) is a fourth proportional to B the standard of comparison, the magnitude itself, and the antecedental of the magnitude of the ratio, which it has to the standard B. Thus a fourth proportional to B, A, and A is \( \dot{A} \) or \( \ddot{A} \) the antecedental of A; a fourth proportional
proportional to $B$, $\frac{A}{B}$, and $\frac{2B}{A} \cdot \frac{A}{B} = \frac{2A}{A}$; and a fourth
proportional to $B$, $\frac{A}{B}$, and $\frac{r}{q} \cdot \frac{B}{A} \cdot \frac{a}{A} = \frac{r}{q} \cdot \frac{a}{A}$.

By means of the first formula in theorem 1 of his Universal Comparison, which expresses the magnitude, that has to $B$ such a ratio, as arises by compounding any number of ratios $C$ to $D$, $E$ to $F$, &c. with the ratio of $A$ to $B$, he determines the antecedental of $\frac{A \cdot C}{D}$ to be $\frac{B \cdot A}{C \cdot D}$ or $\frac{A \cdot C + C \cdot A}{D}$, and that of $\frac{A \cdot C \cdot E}{D \cdot F}$ to be $\frac{B \cdot A \cdot C \cdot E}{D \cdot F}$ or $\frac{A \cdot C \cdot E + A \cdot E \cdot C + C \cdot E \cdot A}{D \cdot F}$, and so on, supposing the consequents $D$, $F$, &c. of the ratios to be irremovable. And it is observable, that the antecedental of $\frac{A \cdot C}{D}$ is equal to a fourth proportional to $B$, the magnitude $\frac{A}{D}$ itself, and the antecedental of the magnitude of the ratio of $A$ to $B$, together with a fourth proportional to $D$, the magnitude $\frac{A \cdot C}{D}$ and the antecedental of the magnitude of the ratio of $C$ to $D$; that the antecedental of $\frac{A \cdot C}{D}$ is equal to a fourth proportional to $B$, $\frac{A \cdot C \cdot E}{D \cdot F}$ and the antecedental of the magnitude of the ratio of $A$ to $B$, together with a fourth proportional to $D$, $\frac{A \cdot C \cdot E}{D \cdot F}$, and the antecedental of the magnitude of the ratio of $C$ to $D$, together with a fourth proportional to $F$, $\frac{A \cdot C \cdot E}{D \cdot F}$, and the antecedental of the magnitude of the ratio of $E$ to $F$; and so on.

He makes use of the first formula in Theorem 2, Universal Comparison, which expresses the magnitude, that has to $B$ such a ratio, as arises by compounding any number of ratios $C$ to $D$, $E$ to $F$, &c. with the ratio of $A$ to $B$ to determine the antecedental of $\frac{A \cdot D}{B}$, $\frac{A \cdot D}{C}$, and so on for any number of ratios.

And here it is also observable, that the antecedental of

$$\frac{A}{C} \cdot \frac{D}{C} = \frac{C}{C} \cdot \frac{C}{C}$$

is equal to the

$$\frac{A}{C} \cdot \frac{D}{C}$$

And it is easily shown, from the principles he has laid down, that the antecedental of $\frac{A}{B}$ is $\frac{A}{B} \times \frac{B}{A}$ or $\frac{A \cdot B}{B} \times \frac{B}{A}$.

For, if $M$ denote the magnitude of the ratio $A$ to $B$ to the standard of comparison $B$, $\frac{M}{B} = \frac{B}{M}$ will be the magnitude of the ratio of $A$ to $B$. But $\frac{A}{B}$, $\frac{A}{B}$ : $\frac{A}{B}$, and $\frac{A}{B}$, the antecedental of $\frac{A}{B}$ to $B$. Wherefore the antecedental of $\frac{A}{B}$ is $\frac{A}{B} \times \frac{B}{A}$ or $\frac{A}{B} \times \frac{B}{A}$.

The antecedents and their antecedentals will therefore stand thus, $B$ being the standard of comparison.

**Antecedent.**

| A | - | $A$ or $A$ |
| A_B | - | $\frac{2A}{B}$ or $\frac{2A}{B}$ or $\frac{2A}{B}$ or $\frac{2A}{B}$ (putting $N$ for $A \cdot B$), or, &c. |
| A or A | - | $\frac{3A}{B}$ or $\frac{3A}{B}$ or $\frac{3A}{B}$ or $\frac{3A}{B}$ |
| A or A | - | $\frac{6A}{B}$ or $\frac{6A}{B}$ or $\frac{6A}{B}$ or $\frac{6A}{B}$ |

And in general $\frac{r}{B}$

| r | A | \frac{r}{B} |
| q | A | \frac{q}{B} |
| r \ or r | A | \frac{r}{B} | q \ or q |
| \frac{r}{q} | A | \frac{r}{q} | \frac{q}{q} |
| \frac{r}{q} | A | \frac{r}{q} | \frac{q}{q} |

Antecedent.
CALCULUS.

Antecedent. Antecedent.
AC - AC + CA \frac{a}{D} or \&c., \&c.
AC - AC + CA, or \&c.
ACE - ACE + AEC + CEA \frac{a}{DF} or \&c., \&c.
ACE - ACE + AEC + CEA, or \&c.,
And so on.

And when B the standard or comparison, becomes \( \frac{r}{q} \), or arithmetical unity, and when \( A + N \) and \( A - N \) are to \( A \) in relations nearer to that of equality than by any given or assigned magnitude of the same kind, they become

\( \frac{r}{q} \), or \( A \) to \( N \). Now if we denote the differential of \( A \) by \( dA \), and subtilute this for \( N \) we get

\( \frac{r}{q} \), \( A \) to \( dA \) for the differential of \( A^q \), and if we call \( \dot{A} \)

the fluxion of \( A \) and subtilute it for \( N \) we get \( \frac{r}{q} \), \( \dot{A} \)

\( \dot{A} \) for the fluxion of \( A^q \). And it is evident that \( \frac{r}{q} \).

\( r \cdot \frac{dA}{A} \) is a fourth proportional to \( \frac{r}{q} \) (the arithmetical standard of comparison, to \( \frac{r}{q} \) the expressions both in the fluxionary and differential calculi have a reference),

\( \frac{r}{q} \), and \( \frac{r}{q} \) the differential of the magnitude of the

\( \frac{r}{q} \) ratio \( A^q : 1 \) to the said standard \( r \); and that \( \frac{r}{q} \), \( \dot{A} \)

\( \dot{A} \) is a fourth proportional to \( \dot{A}^q \), and \( \frac{r}{q} \), \( \dot{A} \) the fluxion

of the magnitude of the ratio \( A^q \) : 1 to the same standard \( r \).

If, therefore, we make use of \( x, y, z, \&c. \) instead of the variable magnitudes \( A, C, E, \&c. \) in the antecedent calculus as delivered by its inventor, the integrals and their differentials will stand as follows:

Integral. Differential.

\( x \) \( dx \)
\( x^2 \) \( 2xdx \)
\( x^3 \) \( 3x^2dx \)
\( x^4 \) \( r \cdot \frac{r}{q} \cdot \frac{r}{q} \cdot dx \)
\( x^q \) \( r \cdot \frac{r}{q} \cdot x \cdot 2dx \)
\( xy \) \( xdy + ydx \)
\( xy \) \( xdy + ydx \)
\( \frac{y}{b} \) \( b \)
\( yz \) \( xydz + xzd\dot{y} + yzd\dot{x} \)
\( y^2 \) \( \frac{y^2}{b} \)
\( d^2 + y \) \( dx + dy \)
\( d^2 \) \( x^2 \cdot \frac{2dr}{r+dr} \) putting \( m \) for the magnitude of the ratio of \( x \) to \( 1 \).

\&c. \&c. \&c. \&c. \&c. \&c.

And the fluents and their fluxions will stand in the following manner.

Fluent. Fluxion.

\( x \) \( x \)
\( x^2 \) \( 2x \)
\( x^3 \) \( 3x^2 \)
\( x^q \) \( r \cdot \frac{r}{q} \cdot x \)

Fluent.
of derivations, in general, consists in reversing the law that connects together the parcels of any quantities whatever; and in making use of this law as a method of calculation for passing from derivative to derivative."

In order to form the algorithm of derivations, the author has introduced new signs. Accordingly, as Leibnitz has appropriated the symbol $d$ to denote the operation for obtaining the differential of a quantity, M. Arbogast employs the symbol $D$ in the process of obtaining the derivative of a quantity; thus, $D (x^n) = m x^{n-1}$, $D (a^x) = a^x$; and the development of a function, $F (x + \alpha)$, is therefore thus expressed:

$$
F_x + \frac{dF}{dx} x + \frac{d^2F}{dx^2} x^2 + \&c.
$$

which, according to the notation in the differential calculus, is

$$
F_x + \frac{dF}{dx} x + \frac{d^2F}{dx^2} x^2 + \&c.
$$

To avoid writing the factors, $1, 2, 3, \&c.$ in the denominators, let $D \alpha$ generally represent $\frac{1}{1.2.3.-\alpha}$; then,

$$
F (x + \alpha) = F_x + D F_x + x + D^2 F_x + x^2 + D^3 F_x + x^3 + \&c.
$$

This is the known form for the development of the function of a binomial; and the object of the primary articles of the present treatise is to find a form for the development of the function of a polynomial; viz. $x + x^2 + x^3 + \&c.$ The method of obtaining it may be thus briefly explained:—When $x$ is variable, and $D x = \beta$, write $D^\beta x$ for the derivative: when $x$ is variable, and $D x = 1$, write $D^1 x$ for the derivative; therefore,

$$
\begin{align*}
\frac{dF}{dx} (x + \beta) &= \frac{dF}{dx} (x + D. F_x + D^2 x + F_x + x^2 + \&c.), \\
\frac{d^2F}{dx^2} (x + \beta) &= \frac{d^2F}{dx^2} (x + D^2 F_x + D F_x + D x + F x + x^2 + \&c.),
\end{align*}
$$

put $F_x = a$, $F_x = D_a$, &c., and $\phi (a + D x + D^2 x + \&c.) = \phi_a + D \phi_a x + D^2 \phi_a x^2 + \&c.$

Now, to determine $D \phi_a$, $D^2 \phi_a$, &c., we have

$$
D \phi_a = D D \phi_a, D_a
$$

for $D^1 \phi_a = D (D \phi_a, D_a) = D D \phi_a, D^2 a
$$

and after development put $D x = \beta$, $D^2 x = \gamma$, $D^3 x = \delta$, &c.; hence it appears that $\phi (x + \beta x + \gamma x^2 + \&c.)$ may be converted into a series of the form $A x + B x^2 + C x^3 + D x^4 + \&c.$; and the first term $A = \phi_a$.

The coefficient of the second term will be $D^2 \phi_a$, or $D A$.

The coefficient of the third term will be $D^3 \phi_a$, or $D A$.

The coefficient of the $n + 1$ will be $D^2 \phi_a x^n$, or $D_A$.

provided that, after the derivations have been made, we put in the results $\beta$ for $D x$, $\gamma$ for $D^2 A$; and

$$
\begin{align*}
\text{The coefficient of $x^n$ or $A^n$ in the series $A + B x + \&c.$} &= D^n \phi_a x^n, \\
&= D^n \phi_a, D^{n-1} \beta + D^{n-1} \phi_a, D^n \beta + \&c., \\
&= D^n \phi_a x^n, \beta^n
\end{align*}
$$

The method of proof is this:

put $x = \beta + y x + \&c.$

then $\phi (x + \beta x + y x^2 + \&c.) = \phi (x + y x)$

$\phi x + D \phi x, y x + D^2 \phi x, y x^2 + \&c.$

but $\phi, \phi x, \phi x^2, \&c.$ are functions of the polynomial,

$\alpha + \beta x + y x^2 + \&c.$.

... generally $\phi x = D \phi x + D^n \beta x + D^2 \beta x + \&c.$

and $\phi x, \phi x^2, \&c.$ Write, therefore, in series (1), for $\phi x, \phi x^2, \&c.$, the values resulting from (2) collect the terms affected with the same power of $x$; and it will easily appear that the coefficient of $x^n$ or $A^n$ is such as we have stated it to be.

In this method is comprehended, as is evident, the form for the development of a polynomial raised to any power which
which was first given, but without satisfactory demonstration, by De Moivre, in the Translations of the Royal Society, and in his " Miscellanea Analytica," p. 57. The above form of M. Arbogast has many advantages; it exhibits comprehensively the law of the coefficients by means of the symbol D; and, when the operations indicated are to be actually performed, the coefficients easily result in terms of the polynomial quantities.

The formula for the function, being general, manifestly serves for the development of expressions, such as \( ax + bx + cx^2 + \cdots, \&c. \), \( (x + \beta x + \gamma x^2 + \cdots, \&c. ) \).

After having exhibited the general form for \( (ax + bx + cx^2 + \cdots, \&c. ) \), M. Arbogast shows how from one term to deduce the next succeeding, and likewise how to calculate any term whatever of the development, independently of all the others. The length and intricacy of the calculations render it impossible for us to give details of these methods.

In the latter part of the first article, the author applies his method of derivation to afford the fun of the powers of the roots of an equation, in terms of the coefficients of the equation; and the formula which he deduces is remarkable for the simplicity of the law by which the coefficients are expressed. Vandermonde (Memoirs of the Academy, 1771, p. 273.), Euler (Comm. Pat. 15 vol.), La Grange (Memoirs of Berlin, 1768), and Waring (Meditations Algebraics, p. 1.), having given general formulae for the fun of the powers of the roots of an equation, M. Arbogast compares his own with the demonstration of these, and shews how they follow from it. Whoever will take the trouble of examining these several formulae will find them not only less simply expressed than that of the present author, but less evidently and less rigorously demonstrated.

The author proceeds to the development of functions of two or more polynomials, arranged according to the powers of the same letter. Suppose the series \( a + bx + cx^2 + \cdots, \&c. \), and \( a + \beta x + \gamma x^2 + \cdots, \&c. \&c. \) are to be multiplied together; then the product is \( \left( ax + bx + \cdots \right) \left( ax + \beta x + \gamma x^2 + \cdots, \&c. \&c. \right) \), or making \( b = D. a, \beta = D. a, \gamma = D. a, \&c. \beta = D. a, \gamma = D. a, \&c. \gamma = D. a, \&c. \gamma = D. a, \&c. \), the coefficients of the terms affected with \( x, x^2, x^3, \&c. \) will be \( (a. D. a + D. a. a. a), (a. D. a + D. a. a. a), \&c. \), or \( (a. D. a, D. a, a. a, \&c. \), and the coefficient of the term affected with \( x^5 \) will be \( D. x^5 \), which may easily be developed.

Hence the formula for the product of any number of series, arranged according to the powers of \( x, \) may be determined.

In four series, for instance, of which the first terms are \( a, a', a'', a''' \), the origin of the derivations will be \( a', a'', a''' \); and the coefficient of the term affected with \( x^5 \) will be \( D. x^5 \), which, by foregoing methods, may easily be developed. Since \( a + \beta x + \gamma x^2 + \cdots, \&c. \) is the same as \( a + \beta x + \gamma x^2 + \cdots, \&c. \), and \( x^{n+1} \) the index of the term.

M. Arbogast determines the true and cofine of any multiple angle in cosines of the simple angle \( E \). His demonstrations for the forms expressing the sines, cosines, \&c. are clear and rigorous. He also directly discusses the difficult and complicated subject of double and triple recurring series. The next article of his treatise contains applications of the calculus of derivations to the general reversion of series; and this part of his work is executed with singular ability. His next object is the use of derivations in the differential calculus, which he considers as a particular case of the calculus of derivations. The 7th article of the author's work consists of three divisions: the first containing the application of the formule of derivation, to the development of the functions of polynomials, containing sines, cosines, \&c.; the second gives the application of the derivative calculus to the development of functions of polynomials, containing sines, cosines, \&c.; the third gives the application of the derivative calculus to the development of functions of polynomials, containing sines, cosines, \&c.
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The product of factors in arithmetical progression; and the third follows the application of the separation of the scales of operations to the direct and inverse method of differences. For a further account of this subject, we must refer to the author’s elaborate treatise. See also an analysis of it in the Monthly Review (New Series), vol. xxxvi. p. 524-533.

Calculus differentials is a method of differencing quantities, or of finding an infinitesimal small quantity, which, being taken in finite times, shall be equal to a given quantity: or, it is the arithmetic of the infinitesimal differences of variable quantities.

The foundation of this calculus is an infinitesimal small quantity, or an infinitesimal, which is a portion of a quantity incomparable to that quantity, or that is less than any assignable one, and therefore accounted as nothing; the error accruing by omitting it being less than any assignable one. Hence two quantities, only differing by an infinitesimal, are reputed equal.

Thus, in Astronomy, the diameter of the earth is an infinitesimal, in respect of the distance of the fixed stars; and the same holds in abstract quantities. The term infinitesimal, therefore, is merely relative, and involves a relation to another quantity; and does not denote any real ens, or being.

Now infinitesimals are called differentials, or differential quantities, when they are considered as the differences of two quantities. Sir Isaac Newton calls them "moments;" considering them as the momentary increments of quantities; e.g., of a line generated by the flux of a point; or of a surface by the flux of a line. The differential calculus, therefore, and the doctrine of fluxions, are the same thing, under different names; the former given by M. Leibnitz, and the latter by Sir Isaac Newton: each of whom lay claim to the discovery.

There is, indeed, a difference in the manner of expressing the quantities resulting from the given views wherein the two authors consider the infinitesimals; the one as moments, the other as differences: Leibnitz, and most foreigners, express the differentials of quantities by the same letters as variable ones, only prefixing the letter d: thus the differential of x is called dx; and that of y, dy: now dx is a positive quantity, if x continually increases; negative, if it decreases.

The English, with Sir Isaac Newton, instead of d x, write dx (with a dot over it); for dy, &c., which foreigners and others object against, on account of that confusion of points, which they imagine arises, when differentials are again differentiated; on account of the ambiguity of the fluxional expressions, owing to the position of the index; because the fluxional expression cannot be so readily extended as the differential notation; and, besides, the printers are more apt to overlook a point than a letter.

Stable quantities are always expressed by the first letters of the alphabet d a = e, d b = e, &c.; wherefore d (x + y - a) = d x + d y, and d (x - y + a) = - d x - d y. So that the differencing of quantities is easily performed, by the addition or subtraction of their compounds.

To difference quantities that multiply each other, the rule is, first, multiply the differential of one factor into the other factor, the sum of the two factors is the differential product; thus, the quantities being xy, the differential will be x dy + y dx, i.e., d (xy) = x dy + y dx. Secondly, if there be three quantities mutually multiplying each other, the factor of the two must then be multiplied into the differential of the third: thus, suppose w x y, let x = t, then w x y = t t; consequently d (w x y) = t d y + y d t: but dt = d x + x d w. These values, therefore, being substituted in the antecedent differential, t dx + y dt, the result is, t (w x y) = w x d y + y x d x + x y d w. Hence it is easy to apprehend how to proceed, when the quantities are more than three.

If one variable quantity increases, while the other decreases, it is evident y dx - x dy will be the differential of xy.

To difference quantities that mutually divide each other, the rule is, first, multiply the differential of the divisor into the dividend; and, on the contrary, the differential of the dividend into the divisor; subtract the left product from the first, and divide the remainder by the square of the divisor; the quotient is the differential of the quantities mutually dividing each other. See Fluxions and Function, under which article will be cited La Grange’s method of divining the principles of the differential calculus of all reference to infinitely small or evanescent quantities.

M. La Croix in his "Treatise on the Differential and Integral Calculus," considers the differential calculus in precisely the same point of view in which M. La Grange regarded it in the Berlin Acta for 1772, and subsequently in an express and formal treatise on the subject. An ingenious anonymous writer has given the sublimity and spirit of M. La Croix’s reasoning, without adhering closely to his notation and method.

Let z = fx be any function of x; then, if for x we substitute x + h, the development of f(x + h) will be of this form:

\[ f(x+h) = f(x) + f'(x)h + \frac{f''(x)h^2}{2!} + \cdots \]

the coefficients f'(x), f''(x), &c. being derived from the primitive function f(x), and independent of h.

Hence \[ f(x+h) - f(x) = f'(x)h + \frac{f''(x)h^2}{2!} + \cdots \]

which quantity represents the difference between f(x) and what f(x) becomes when x is increased to x + h. Let the first term of this difference be called the differential, and be denoted by the expression df(x); hence we have \[ df(x) = f'(x)dx \cdot f'(x) = \frac{df(x)}{dx} \]

Hence to have f'(x), divide the difference between two successive values of f(x) by the increment: but, since f'(x) is independent of h, h must disappear by this division, and may be represented by any symbol at pleasure. Hence, for the sake of uniformity in the signs, let h be represented by \[ dx \cdot f'(x) = \frac{df(x)}{dx} \]

Hence to find df(x), or the differential of f(x), write in f(x), x + hdx, for x, and develop f(x + hdx) as far as the terms affected with the first power of dx, and subtract f(x).--

Since \[ f(x + hdx) - f(x + hdx) = f'(x)dx + \cdots \]

&c.

\[ f'(x)dx - f''(x)dx^2 \ldots \]

then \[ df(x) = \frac{df(x)}{dx} \cdot dx \]

But since dx is invariable,

\[ f'(x + hdx) = f'(x)dx^2 \ldots \]

\[ df(x) = f''(x)dx^2 \ldots \]

but \[ df(x)dx = \frac{df(x)}{dx} = dx \]

(both not meaning a symbol d squared, but denoting the second differential of f(x) to be taken): hence it appears, since \[ f''(x) = \frac{df(x)}{dx} \]

\[ d'(x) \]

\[ dx^2 \]
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\[ \frac{df}{dx}, \text{ and thus the derived functions } f'x, f''x, f'''x, \text{ etc.} \]

may be represented by the quantities \( \frac{df}{dx}, \frac{d^2f}{dx^2}, \frac{d^3f}{dx^3}, \text{ etc.} \)

so that the development of \( f(x + b) \) takes this form, \( f_{x} + \frac{df}{dx} \cdot b + \frac{d^2f}{dx^2} \cdot \frac{b^2}{2!} + \text{ etc.} \)

the celebrated theorem of Taylor.

**Calculus, differential-differential.** is a method of differencing differential quantities. As the sign of a differential is the letter \( d \) prefixed to the quantity, so that \( dx \) is the differential of \( x \), that of a differential of \( dx \) is \( d^2x \), and the differential of \( d^2x \) is \( dd^2x \), etc.; similar to first, second, and third, etc. fluxions, \( x, x, x, \text{ etc.} \); thus we have degrees of differentials. The differential of an ordinary quantity is a differential of the first order or degree, \( dx \); that of the second degree is \( d^2x \). The rules for differentials are the same with those for fluxions. See Fluxions.

**Calculus exponentialis.** is a method of differentiating exponential quantities, or of finding and summing up the differentials or moments of exponential quantities; or at least bringing them to geometrical constructions.

By exponential quantities, is here understood a power, whose exponent is variable; v.g. \( e^{ax}, e^{ay}, e^{az}, \text{ etc.} \) where the exponent \( x \) does not denote the same in all the points of a curve, but in some for \( 2, \) in others for \( 3, \) in others for \( 4, \) etc.

To *difference an exponential quantity*: there is nothing required but to reduce the exponential quantities to logarithmic ones; which done, the differentiating is managed as in logarithmic quantities.—Thus, suppose the differential of the exponential quantity \( x^n \) required, let \( x^n = \eta \)

Then will \( f(xdx + \eta dx) = \frac{f(x)}{dx} + \frac{d^2f}{dx^2} \cdot \frac{\eta}{n} \)

etc.,

That is, \( \frac{\eta dx + \eta dx}{dx} = \frac{dx}{dx} \). Bernouilli Opera, tom. i. p. 183. See Exponential.

**Calculus fluxional.** See Fluxions.

**Calculus integralis, or summatorius.** is a method of integrating, or summing up moments, or differential quantities; i.e., from a differential quantity given, to find the quantity from whole differentiating the given differential results.

The integral calculus, therefore, is the inverse of the differential one: whence the English, who usually call the differential method, fluxions, give this calculus, which ascends from the fluxions, to the flowing or variable quantities: or, as foreigners express it, from the differences to the sums; by the name of the inverse method of fluxions.

Hence, the integration is known to be justly performed, if the quantity found, according to the rules of the differential calculus, being differentiated, produce that proposed to be summed.

Suppose \( \int \) the sign of the sum, or integral quantity; then \( \int ydx \) will denote the sum, or integral of the differential \( ydx \).

To *integrate, or sum up a differential quantity*. It is demonstrated, first, that \( \int xdx = \frac{x^2}{2} \); secondly, \( \int (x + dy) = x + y \); thirdly, \( \int (x^2 + dy^2) = x^2 + y \); fourthly, \( \int (x^2 + y^2) = x^2 + y^2 \).

If the differential quantity to be integrated, doth not come under any of these formulas, it must either be reduced to an integral finite, or an infinite series, each of whose terms may be summed.

It may be here observed, that, as in the analysis of finite quantities, any quantity may be raised to any degree of power; but *vice versa*, the root cannot be extracted out of any number required: so in the analysis of infinite quantities, any variable or flowing quantity may be differenced; but *vice versa*, any differential cannot be integrated. And as, in the analysis of finite quantities, we are not yet arrived at a method of extracting the roots of all equations; so neither has the integral calculus arrived at its perfection; and as in the former we are obliged to have recourse to approximation; so in the latter we have recourse to infinite series, where we cannot attain to a perfect integration.

The first traces of the integral calculus are to be found in the *Epitome de Curvarum.* In his "Principia," he concealed his analysis, and adhered to the manner of the ancients. It does not appear by what method he solved the 34th proposition of the 2d book of the "Principia" concerning the solid of least resistance, whether he effected it by a particular arithmetic, or whether he really possest the calculus of variations, of which Leibnitz and the Bernoullis are now the inventors. The mathematicians to whom the integral calculus is chiefly indebted for its improvement, are John Bernoulli, who integrated rational fractions; James Bernoulli, who integrated the fluxional equation, \( y = x^2 \); Cotes, who published in 1714, "Theoremata de Logometriae quae Trigonometriae," Riccati, who integrated the fluxional equation \( y' + \frac{y''}{x'} = 0 \); Maclaurin, author of a treatise in 2 volumes, 4tos.; Simpson, Fontaine, Clairaut, D'Alembert, and Euler, whose researches on the integral calculus occur in the volumes of the academies of Paris, Berlin, Turin, and Peterburgh. The last author published in 1768 his "Institutiones Calculi Integralis," highly enriched with original inventions; and in the same year, Le Saur and Jacquier published a work in 2 volumes, 4tos., which superseded a work of M. Bouguinville, published in 1754, intended as a supplement to the "Analyse des Infiniment Petits de Marquis de L'Hopital." Condorcet, La Grange, La Place, Monge, and Le Gendre, have also made considerable additions to the integral calculus. M. La Croix has likewise published a comprehensive and valuable treatise on the differential and integral calculus (Traité du Calcul Differentiel, &c. 2 vols., 4tos., Paris). In the plan of this work it is proposed to comprehend and systematize all that has been written on the differential and integral calculus. It commences with a history of the subject which properly originates with the times of Euclid and Archimedes; because the methods of ex-
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hunions and limits rest on the same foundation. The questions that led to its discovery have been discussed since the earliest era of geometry. The 12th proposition of the 12th book of Euclid's Elements is a problem of this kind, and the first that has come down to us. Archimedes, by similar methods, advanced to the solution of more difficult problems, than that which investigated the relation of circles to one another; such as the relations between the surfaces and solid contents of the cylinder and sphere, the quadrature of the parabola, and the proportion of spirals. M. La Croix then proceeds in his history of the differential calculus, as connected with the several discoveries made by Cavalieri, Roberval, Desartes, Fermat, Hugens, Gregory de St. Vincent, Pafcal, Wallis, Barrow, Leibnitz, and Newton. See Fluxions.

M. la Croix's treatise consists of two parts: the first part gives an account of the differential calculus; and the subject of the second part is the integral calculus. This part begins with the integration of functions of one variable quantity; and the author has furnished various formulze for integrating rational and irrational functions, logarithmic and exponential functions, circular functions, &c. and he then applies the integral calculus to the quadrature and rectification of curves, to the quadrature of curved surfaces, and to the content of the solids comprehended by them. He subjoins an exposition of the methods which Euler employed in his researches concerning curves that are quadrate, rectifiable, &c. His next object is the integration of differential equations of two variable quantities; and in reference to this he has collected all that has been written on this intricate subject. Accordingly this chapter of his work contains methods for separating the variable quantities in differential equations of the first order; for investigating a factor proper to render a differential equation of the first order integrable; for integrating differential equations of the first order, in which the differential quantities pass the first degree; for obtaining particular solutions of differential equations of the first order; for resolving by approximation, differential equations of the first order; for constructing, geometrically, differential equations of the first order; for integrating differential equations of the second order by means of transformations; for investigating a factor proper to render differential equations of the second order integrable; for resolving, by approximation, differential equations of the second order; and for integrating differential equations of orders superior to the second. The subject of the next chapter is the integration of fractions containing two, or a greater number of variable quantities. The fifth and last chapter treats of the method of variations.

The calculus of variations originated from certain problems concerning the maxima and minima of quantities having been proposed by John Bernouilli, to the mathematicians of Europe. Such a problem was that in which it was required to find, of all curves passing through two fixed points, and situated in the same vertical plane, that one down which a body would descend from the highest to the lowest point in the least time possible. The first geometers, remarking that nothing was obtained by putting the differential of the time, \( \frac{dx}{t} = a \), found that they could obtain a solution by making the time a minimum for two successive elements of the curve; thus, if \( x, x', x'\prime \) were three vertical abscissas, and \( y, y', y'\prime \) the corresponding ordinates, the time would be expressed by

\[
\sqrt{\frac{(x'-x) + (y'-y)}{x}} + \sqrt{\frac{(x''-x') + (y''-y')}{x'}} = b \text{ a constant.}
\]

The result of this equation, \( y = \frac{dy}{dx} \), gives a quantity; and consequently proved the curve to be a cycloid. — Euler, with far greater analytical knowledge than John Bernouilli, next treated these problems in a general manner, in his tract intitled, "Methodus inveniendi linearis curvas maximi minime proprietate gratae; sive problematis isoperimetris latiimo senftu accepti." M. La Grange afterward gave greater generality to this calculus, by making variable not only \( y, \frac{dy}{dx}, \frac{dy'}{dx}', \&c. \) but \( x \).

The explanation of M. La Croix affords a clear idea of the calculus of variations:

"Suppose (says he) the variable quantities at first conceived together by an equation, or by any other dependence, to change by reason of the form of the equation, or of the relation that results from the dependence established between them; ceasing to be the same; this circumstance cannot be expressed in a more general manner, than by regarding the increments of \( x \) and \( y \), as absolutely independent of each other; hence, in effect, this hypothesis, not designating any particular relation between \( x \) and \( y \), comprehends all. It follows thence, that the calculus of variations can only be employed for expressions, to which the differential calculus has already been applied; and it differs from the last only by the independence which it supposes between the variable quantities, which before were considered as connected by constant relations. The following example will illustrate this notion. The expression \( \frac{dy}{dx} \) which belongs to the subtangent of a curve, represents a determine function of \( x \), when \( y \) is considered as a function whose composition in terms of \( x \) is known; and if this last changes, the first changes also. There will be, perhaps, some difficulty in conceiving how we can submit to calculation the variability of a function which is only the abstract dependence in which several quantities are with regard to each other; but this difficulty is removed, by considering that the connection between the quantities \( y \) and \( x \) changes, if the first be made to vary independently of the second. Thus, in the example before us, if we suppose \( x \) to remain the same, and \( y \) and \( \frac{dy}{dx} \) to change, the relation between \( x \) and \( y \) must necessarily have changed also; since these quantities are the immediate consequences of that relation: \( \frac{dy}{dx} \) in the form \( \frac{ydx}{dy} \), may alone be made to vary, since it depends only on one value of \( y \); but, if an expression affected by the sign \( \int \) be considered, \( y \) and \( \frac{dy}{dx} \) must be made to vary at the same time; for it follows from the theory for the formation of integrals, that the value of a like function depends on the consecutive values of \( y \) which are deduced from those of \( \frac{dy}{dx} \)."

"It is evident that, to take under this point of view the differential of any expression whatever, it is sufficient to make \( y, \frac{dy}{dx}, \frac{dy'}{dx}', \&c. \) vary without altering \( x \); but, in treating this latter quantity, as variable as the first, we arrive at results more general and symmetrical than what are otherwise obtained, and which lead to very interesting remarks on the nature of the differential forms. For these reasons, we shall adopt in this chapter the method of making \( x, dy, dy' \) vary. That the symbols of this new species of differentiation, in which \( x \) and \( y \) are considered as independent, may not be confounded with the symbols of the first,
CALCULUS.

In which one of the variable quantities is regarded as a function of the other, we shall employ, after the manner of La Grange, the characteristic \( \frac{dx}{dy} \); and we shall suppose, with him, that when \( x \) changes only by virtue of the change of \( y \) which becomes \( x + dx \), its differential is \( dy \); but then, when the relation of \( x \) and \( y \) varies, these two quantities become respectively \( x + dx \) and \( y + dy \); and we note by the name of variations, the increments \( dx \) and \( dy \).

Hence it follows that, as \( du = \frac{dx}{dy} \cdot du + \frac{dy}{dy} \cdot du \),

\[ \frac{du}{dx} = \frac{dy}{dx} + \frac{dy}{dy}. \]

In applying this to the example \( \frac{dy}{dx} \), we must regard \( dx \) as a function of \( x \) and \( y \); whence it results that

\[ \frac{dy}{dx} = \frac{dx}{dy} + \frac{dy}{dy} \left( \frac{dx}{dy} \right) \]

and \( \frac{dy}{dx} = \frac{dy}{dx} + \frac{dy}{dy} \).

M. La Croix then proves \( \frac{dy}{dx} = \frac{dy}{dx} \); and, after the methods for finding the variations of any function whatever, is given the application of the calculus to the problems of maxima and minima.

CALCULUS literalis, or literal Calculus, is the same with specious arithmetic, or algebra, as called, from its using the letters of the alphabet: in contradistinction to numeral arithmetic, which uses figures.

In the literal calculus, given quantities are expressed by the first letters, \( a, b, c, d, \) &c.; and quantities sought by the last \( x, y, z, \) &c. Equal quantities are denoted by the same letters. See Algebra.

CALCULUS, in Medicine, the disuse of the stone in the bladder or kidneys. The calculus in the bladder is called lithiasis; and in the kidneys, nephritis. See Stone.

CALCULUS, Biliary. Small, hard, roundish, concrements are often found in the gall bladder, or in the ducts leading from the liver and gall-bladder to the intestine, which occasion in their passage much acute pain to man, and probably other animals, and have attracted some attention from chemists.

Biliary calculi (or gall-stones, as they are also termed) vary both in external appearance, and in chemical properties. The colour is generally green or yellowish-brown, sometimes, though rarely, white; in shape they are mostly oblong, often tuberculated. When cut through, they most frequently consist of a radiated semi-crystalline mass, internally often resembling spermaceti, coated with several concentric laminae. The radiated part is mostly white and tallowish; the laminated is sometimes bitter.

Gall-stones are distinguished for their lightness and inflammability, few of them being so heavy as to sink in water; and when put to a lighted candle, most of them melt like wax, and burn with a very bright flame, and very little ammoniacal smell. From the infinite minute varieties in gall-stones, no natural arrangement is indicated, but the most important differences, known by chemical analysis, rest upon the proportion of the radiated, crystallized, central part, and the general lightness and inflammability.

The radiated gall-stones are largely soluble in oil of turpentine, and in all the essential oils by heat. Alcohol when cold has but little action, but when boiling it dissolves almost all the inflammable part of the calculus, leaving an earthy residue behind. On cooling, this solution deposits very copious peculiar crystals, strongly resembling those of spermaceti treated in this way, and this singular substanace forms by far the most curious part of these morbid concretions. Poulett and Fourcroy have both attended minutely to this matter. The former discovered similar crystalline concretions in a piece of liver long hung up in a dry air.

When the hot alcoholic solution of this concrete is dropped into a large quantity of water, a white flaccid precipitate is formed, which, when dried, is found to be of a refrinous nature. The supernatant liquor by saturation with muriatic acid and evaporation gives muriat of soda, by which it is evident that the soda of the bile remains in union with its resin during its conversion into biliary calculi; but the chemical nature of this conversion is very obscure.

Ether dissolves the spermaceti-like concrete as well as oil of turpentine, and deposits the greater part on cooling. Hot nitric acid is decomposed on it, and nitrous gas is given out, and when cool, a white oil is found concreted on the surface of the acid, now no longer of a crystalline texture, but altered in its properties, being brittle and friable like a resin, and when re-dissolved in alcohol it has lost its power of crystallizing by cooling. It is still, however, insoluble in water. Ether dissolves this altered concrete as it did when in its natural state, but water now separates it in the form of drops of oil. Saunders on the bile. Fourcroy. Bolestock in Phil. Journ. vol. vi.

CALCULUS Minurens, among the Ancient Lawyers, denoted the decision of a cause, wherein the judges were equally divided. The expression is taken from the history of Oedipus, represented by Eschylus and Euripides; at whose trial, before the Areopagities for the murder of his mother, the votes being equally divided for and against him, Minerva interposed, and gave the calling vote, or calculus, in his behalf.

M. Cramer, professor at Marburg, has a discourse express. "De Calculo Minurens," wherein he maintains, that all the effect an entire equality of voices can have, is to leave the cause in statu quo.

CALCULUS Tiburtinus, a sort of figured stone, formed in great plenty about the canals of the Aius, and other rivers in Italy; of a white colour, and in shape oblong, round, or ovoid. They are a species of the silex lepideus, and generated like them; and so like sugar-plums in the whole, that it is a common jest at Rome to deceive the inexperienced by serving them up at feasts.

CALCULUS, urinary. See Urinary calculus.

CALCUITA, in Geography, a city of Hindooistan, and capital of Bengal, and of all the British possessions in India, is situated on the river Hoogly, the western arm of the Ganges, at the distance of about 100 miles from the sea; and the river is navigable up to the town, for the largest ships that visit India. Its citadel is placed in N. lat. 25° 37'. E. long. 88° 27' 45". It is comparatively a modern city, having been built towards the close of the 17th century on the site of the village called Govindpour. The English factory obtained leave to remove hither from Hoogly in the year 1689 (see Bengal), when Mr. Chisholm was agent in Bengal, and who fixed upon this spot for the British emporium, though from several circumstances it was at that time the most unhealthy he could have chosen. For 3 miles to the north-east there was a salt-water lake, that overflowed in the months of September and October; and in the two following months, when these floods withdrew, prodigious quantities of fish were left dry, the purefication of which was supposed to affect the air; and this, together with the fetid putrid exhalations from the ooze and sludge, conveyed by the north-east wind to Fort William, occasioned a yearly mortality.
During the rapid increase of this town, diseases were fatal to thousands, and particularly, according to the testimony of Dr. Lind, among such as had lately arrived from Europe. Hamilton mentions an influence, from his own knowledge, of 400 burials in six months, at a period when all the English resident here did not exceed 1,200. Besides, when this spot was chosen, every man was allowed to build as bell suited his convenience and taste, without regard to the disposition of the whole; and, therefore, the different houses bore no resemblance to one another either in their position or architecture. From this small and unpromising beginning, Calcutta is now become a large, populous, and in many respects, an elegant city. The quarter inhabited by the English is composed entirely of brick buildings, many of which appear more like palaces than private houses; and though they add much to the beauty of the place, they would have a much b etter effect if the streets were laid out with greater symmetry and order: but the rest of the city, and, indeed, most of the part of it, consists of houses like those of the other Indian cities; all of which are constructed on the same plan, with very narrow, confined, and crooked streets, in which are interposed an incredible number of refectories and ponds, and a great many gardens. Some few streets are paved with brick. The houses are variously built; some with brick, others with mud, and a still greater proportion with bamboo and mats; and these different kinds of edifices, being intermixed with one another, form a motley appearance. Thos of the latter kind are invariably of one story, and covered with thatch. The brick houses generally exceed two stories, and have flat terraced roofs. The two former classes far outnumber the last, which are often so thickly studded, that fires, which frequently happen, do not sometimes meet with the obstruction of a single brick house through a whole street. The structure of the European houses serves to excite them from fire; as only a small portion of wood enters into the materials, for the partition-walls, as well as the flat roofs, are chiefly constructed of brick and mortar, which last article, under the denomination of "Chunnam," the natives have brought to great perfection. The buildings of the place extend full 5 miles along the river, and about half as much in breadth from it. Within the last 30 or 40 years, Calcutta is wonderfully improved, both in appearance and in the salubrity of its air; for by draining the streets and filling up the ponds, they have removed a vast surface of stagnant water, the exhibitions of which were particularly injurious. The local situation of Calcutta, as we have already observed, is not fortunate; for it has some extensive muddy lakes, and a salt forest close to it. More still remains to be done before Calcutta can merit the character of a healthy town. In the middle of the city a large open place has been left, in which there is a spacious tank or reservoir, covering upwards of 25 acres of ground. It was dug by order of the government, to provide the inhabitants of Calcutta with water; as in the dry season the water of the Ganges becomes brackish by the influx of the tide, while that in the tank is very sweet and pleasant. The number of springs which it contains preferves the water always nearly at the same level. It is railed round, nor is any person suffered to wash in it; but all are at liberty to take as much water from it as they like. Near this tank is a handsome obelisk, erected by Mr. Holwell, one of the few survivors in the tragic scene of the black hole, of which we shall subjoin an account; it is about 50 feet high, inscribed with the names of the persons who died on this execrable occasion, and whose bodies were promiscuously thrown, the next morning, into the ditch of the fort. A little farther is the court-house, over which are two handsome assembly-rooms. Close to the court-house is a theatre, where plays are sometimes performed. Beyond this is an Armenian church, which is a large and noble building, with a handsome steeple. There is a to an English church of modern construction. The citadel, called "Fort William," is situated about a quarter of an hour's walk from the city, by the side of the Ganges, in an extensive plain. This citadel is superior in every point, as it regards strength and correctness of design, to any fortresses in India; but it is formed on too extensive a scale to answer the useful purposes intended, that of holding a poft in case of extremity; since the number of troops required properly to garrison it, could keep the field. It was begun in the year 1757, immediately after the victory at Plassey, which restored to the British an unlimited influence in Bengal; and it was the intention of Clive to render it as permanent as possible, by providing for all times a tenable post. However, he had no foresight of the vast expense attending it, which may perhaps have been equal to two millions sterling. It is a regular pentagon, with several outworks. The ramparts are built of brick, halfway up, finished with clay, and faced with gaurons. Both the body of the fortresses and the outworks are surrounded by a wet ditch, which has a small concrete, 6 or 7 feet deep, in the middle. The water from the Ganges may be let into the moat, to the height of 8 feet, by means of flood-gates, of which there are two to each outwork, constructed in such a manner, that if an enemy be master of one, he cannot prevent both the main ditch, and those of the other outworks, from retaining their water. If all the works were mounted with cannon, there would be room for 600 pieces of artillery. Within the fort are bomb-proof barracks for 10,000 men. All the works are guarded by mines and countermines. No ship can pass up or down the Ganges without being exposed to the fire of this fort; nor can any enemy approach by land without being discerned at the distance of 3 or 4 leagues. The population of Calcutta is supposed to amount at present to more than half a million of inhabitants; and their different aspect and manners present a very picturesque and interesting scene. The black Hindoo, the olive-coloured Moor or Mahometan, contrast with the fair and Rord countenances of the English; and the charms of the European damsel receive a foil from the dark Hindoo beauties. "The mixture of European and Asiatic manners," says a traveller in India, "which may be observed in Calcutta, is curious: coaches, phaetons, single-horse chaises, with the palanquins and hackeries of the natives, the paifing ceremonies of the Hindoos, the different appearances of the Fakirs, form a £ight more novel and extraordinary than any city in the world can present to a stranger." "To the luxuries of the Asiatic (says Mr. Pinkerton) are added the elegance and science of the English life. Even the newspapers are drawn up with care, and printed with elegance;" and the Asiatic Society, instituted by the late admirable sir William Jones (in January 1784), may perhaps rival the Academy of Inscriptions at Paris, if the papers of the latter were adopted as a model. "The Asiatic Researches, which are the productions of this society, form a noble monument of British science in a distant country."

Calcutta is eminently distinguished as the emporium of Bengal, and the residence of the governor-general of India. It is also the seat of justice, under four judges, who dispense judgment according to the laws of England. Its flourishing state may be ascribed, partly, among other causes and circumstances that have contributed to it, to the unlimited toleration which it affords to all forms of religion; the Pagans being suffered to carry their idols in procession, the Mahometans not being discommoded, and the Roman Catholics being allowed a church.

The police of the city is chiefly committed to a superintendant;
tenant of police, and several inferior justices of the peace, with certain stated salaries. Before thefe all petty delin-
quencies are tried, and by them they are punished. "Tan-
nists," or guard-houfes, are erected in the different districts of the town; and the peace is maintained by a few compa-
nies of native fowlers who patrol the streets, and prevent disturbance from quarrels, robbery, or theft. Offences of a higher nature, committed by either Europeans or natives, are cognizable by the fupreme court of judicature, which, about 25 years ago, was fubstituted in place of the mayor's court, with superior authority, and more extensive jurisdiction. The powers of this court extend not only to the company's territories in this part of India, but also to every civil or criminal, that may occur between the Coromandel and Malacca coasts. Its jurisdiction, however, does not extend to the higher factions; nevertheless in these, all the European settlers enter into an engagement to be amenable to its authority.

The commerce of Calcutta is very considerable in falt, sugar, opium, yielded by the poppy particularly cultivated in the province of Balhar, fikhs, mulius, &c. Muffs, borax, and other commodities, used to be imported from Thibet, in exchange for European cloths, and hardware; but this trade is probably interrupted since Thibet became subject to the jealous Chinefs. On the Ganges are transported to Asam cargoes of falt, in exchange for gold, filver, ivory, muffs, and a particular kind of fily cotton. The cowry fells, used as a small coin, are imported from the Madlyyes in exchange for rice. The fine muffs are chiefly fabricated in the rainy season, from May to September, and with calli-
goes form a great part of the exports to Europe.

The merchants and agents of this capital are by no means confined to transactions with their confidents employed in different branches of the service; they engage largely in foreign commerce to every port of note either in Asia or in Europe. In fome houses, the extent of their dealings has been diminished, probably by an account somewhat ex-
aggerated, at two crores of rupees annually, or above two millions fterling. Nevertheless, no merchantile house has ac-
cumulated fums equal to the fortunes acquired by many in-
dividuals in the service. The charges of clerks, freight, furance, and other circumstances, particularly houfe-rent, muft deeply affect the profits arising from every concern not uncommonly lucrative. The extent of the private trade of Calcutta cannot be eliminated juftly, either from the number or the burden of the ships belonging to that port. In a period not very remote, there were only 60 that properly belonged to the British merchants here, and their burden was about 27,000 tons. But their concern in foreign ships is very considerable. The Dutch, Danith, and French settle-
mants on the river afford opportunities for indirect trade to any extent; nor are they negligent in availing the u-
felves of this advantage. The company affords considera-
fle employment to the country-built ships, independently of the merchants. It polfifes a marine establishment, under the direction of a board instituted for that purpofe. During war, cruisers are frequently employed, as well as transports, and ftre-hips, for its own troops. These transactions fall under the direction of the marine board, confifting of five members, and a number of subordinate officers and clerks. It also superintends the pilot-service, which is an important part of the marine establishment in a river of fuch dangerous navigation as the Hoogly, in which fand banks formed by the land and mud wafted down this branch of the Ganges during the rains, are continually ftantuating in their fize and position. Conflant attention is, therefore, necessary to place the different buzo's toe that they shall not mislead the mariner.

Freight in this climate is high; and yet commerce appears to be as adventurous as in any part of the world. The freight of boats in the inland trade upon the river is far from being low; and this is owing to the time nec
ecessary for performing a moderate voyage on that winding stream. The larger boats upon the Ganges carry from 300 to 600 mauns; and their hire per month amounts to 20, 30, or even 60 rupees, according to their different fizes. Budge-
rows (see Budge-row), for the accommodation of gently-
men and their families, are to be had of all fizes from 8 to 24 oars; the rate of hire for the firfl is 60 rupees per month; for the laft, 230. The pinace is another kind of travelling boat, full more expensive than the budge-row. It has fe-
rior accommodation, and from its reffembling European craft in its structure, both in its hull and rigging, it is better fitted for encountering a gale in the great river. Besides the high rate of freight charged in the inland, and maritime trade, the merchants in Calcutta pay a considera-
ble commiffion on the purchase of goods by their agents; and this on most articles is 5 per cent. The mafiers of the country built ships, or the supercargoes, are the immediate agents by whom the trade of this part of the world is con-
ducted; and they are an enterprising body of men, and in general better informed than those of the fame profession in Europe. With the common Malays, and a mixture of Chinefs, and Bengalfe famen, who never become very expert and intelligent in their profession, the country ship-
masters perform voyages in fome dangerous fens with astonishing feceurity. Thofe vefcls are termed "Donies"; and their enterprifes at sea are chiefly to be ascribed to the example of Europeans; for, before their appearance, the Hindoos were hardly known as navigators. In Calcutta there are fix differ-
ent affurance-companies; which cover the property of in-
dividuals from the risks of the sea, perhaps at as low a rate of insurance as it can be done in Europe. Of the ships already mentioned belonging to Calcutta, there is not a fingle one commanded by a native. The internal navigation is, indeed, conducted by the natives. See Ganges.

The Armenians are the moft refpeetable, and perhaps the moft numerous body of foreign merchants in this capital. They carry on an extensive trade from China, and moft of the ex-
ports to the eafthward, and also to the west, as far as the Persian gulf. Their information from all the differ-
ent quarters is deemed the moft accurate and minute of any body of men in their profession. They are attentive, regu-
lar, and diligent in business; their houses are of old standing; and many of them are possessed of large capitals. As members of society, they are peaceable and loyal, polite and inoffensive. Some few priets of their perfonation are main-
tained by them, not only in affidence, but in some degree of splendour. In their fondnefs for ftreem and elegance, the Armenians approach nearer to the English than any mer-
chants at Calcutta; but they are more guarded in their ex-
penditure.

The Mogul merchants are the next body of strangers, who have indeed long resided in this country; they have 13 different mercantile houses of confiderable note, besides many other counting-houfes of inferior importance. Some individual among the Moguls are very wealthy, and are inferior in riches only to some of the native rajahs, banians, and sroiffs; of these fome are more opulent than the firft noble-
men in England. A million fterling, or even half of that sum, which feveral of them are paid to poifees, yields a re-
venue of three times the amount of any capital in Britain, from the exhorbitant rate of interest at which these people lend their money. In the drefs and table of the Hindoo, little is devoted to the purposes either of elegance or mag-
ificence,
CALCUTTA.

nificence. The greatest drains upon his income are his pious contributions, and the expenses of his Zemana. The notches, marriages, and religious festivals furnish occasions of profusion; but these ceremonies are under the direction of the Brahmins; and, according to the ideas which these spiritual guides have formed of his wealth, must be the otto, rofe-water, and other perfumes, and sweetmeats served in velvets of gold, under a large canopy illuminated with beautiful lutes, to many hundreds of guests of all ranks and denominations. On such occasions the Hindoo is gratified by the appearance of a large company; and dresses himself particularly honoured by the attendance of Europeans. Although the notches are intended to do honour to some deity, who is supposed to preside over the festival; yet they seem of all institutions least calculated to excite religious ideas. Part of the ceremony consists in listening to the music of the singing girls, who draw out their monotonous ditties with a non-achance and dulness which can only be equalled by the sluggish dance, and inanimate gestures with which they are accompanied. Of all entertainments an Hindoostane notch is probably the most stupid; and they are sometimes accompanied with pantomimical performances of no delicate nature.

The number of Greek merchants in Calcutta is not considerable; they, however, maintain one clergyman, who performs religious worship according to the rites of that church. Portuguese houses of agency are, with respect to number, next to those of the English. A very considerable number of the descendants of that nation by native women reside at Calcutta. No people in Europe seem to have alienated themselves so closely to the manners of the country. Many of these chiefs are held in low estimation. With a complexion darker than that of the Hindoos, with habits less familiar, and with full possession of the language, it is strange that none of these have been able to make converts from the Heathen to the Roman Catholic faith. This circumstance evinces the complete dominion, which the Brahmin superstition possesses over the minds of the common people; for no denomination of Christians can be more devoted to the work of conversion than the church of Rome.

The British merchants at Calcutta are a numerous and respectable body of men. Several of them have acquired large fortunes, and in the acquisition of those fortunes they have displayed those mercantile talents, and that enterprising spirit which distinguish their character in every part of the world. At Calcutta the peculiar habits of their profession have in no degree encroached on the liberality of their minds or the elegance of their equipage and tables. They here display an expense and splendour in their mode of living seldom admired after by the same order of men in any part of the world; and it redounds much to their honour, that their acts of charity and munificence to indigent persons have, perhaps, never been equalled by any similar number of men of any rank whatever. Few of these gentlemen are engaged in the service. The service of the company attaches itself to itself certain ideas of rank and consequence, which often produce ludicrous effects upon the intercourse of society. All persons in civil and military departments affect a degree of superiority over such as are not in the service, which is frequently ill supported by their talents, birth, or character.

Among the various classes of the mercantile part of the community, we have made no mention of the Jews. Few of that nation ever settle in India, and Calcutta is perhaps the only opulent town in which they are not to be found. The native Banians, Sarkars, and Writers, carry on the greatest part of the retail trade of Calcutta. They go about hawking commodities from morning to night, or searching after cheap purchases. To this class of the Hindoos appertain that low cunning, flirtation, and deceit, which characterise the money-transactions of persons of narrow intellects. With all their propensity to cheat, the native shop-keepers generally fill their goods on lower terms than those on which they are to be obtained in the European ware-rooms; but they are commonly neither of the first fashion nor best quality. Their house-rent is another cause of their under selling the Europeans. The shops of the natives, though better than their houses, are mean and disagreeable; and from their situation in the common bazaars, are much cheaper than the larger and more splendid rooms in which the British merchants expose their wares. House-rent and servants' wages are the most expensive parts of the charges of housekeeping in Calcutta. The common articles of provision are much cheaper in Europe; but house-rent till lately, has been a very exorbitant charge. Only a few years ago, a house sufficient to accommodate a genteel family could not be procured under 600 or 800 pounds a-year; and many even let at a larger sum. The number of servants necessary in a private family, to perform their duties in this country, exceeds all belief. This is an evil which admits of no remedy as long as the superintendence of the natives shall deter them from performing service beyond one specific kind of work. The wages vary according to the different stations they occupy, from 4 rupees per month to 20. The salary of servants, added to the house-rent, and the incidental charges of a family, will enhance its expenditure to 3, 4, and 5 thousand rupees a-year, according to its number.

The maintenance and education of the children belonging to Europeans in India have, on account of their increasing number, become objects of great importance. With a view to these objects, several perors have done honour to themselves and to their country, by establishing schools for the relief of the orphan children of the military servants of the company. Two institutions have been formed for this purpose: one for the children of officers, and the other for those of private soldiers. Each is provided with teachers of both sexes, qualified to instruct the children in such branches of knowledge and industry as seem to be adapted to their rank and prospects in society. The fund for the support of these institutions is supplied by a fixed contribution raised from the military, or by the donations of the benevolent. Besides the two institutions already mentioned, there are seven or eight others for the education of boys; and nearly an equal number for girls. Besides these foundations, there are some others of inferior note, equally laudable, established by the munificence of the inhabitants of Calcutta. A free-school, which provides for the education of nearly 200 children, under the management of the vestry, is, in part, supported by voluntary contributions only. Two lacks of rupees were originally devoted to the education of the children of the poor. The interest of that sum continues to be applied for that purpose. Another school, equally numerous, has been added to this upon a fund raised merely by casual benefactions. An oratorio has lately been performed annually to aid its funds, which promises a considerable supply of revenue. To these institutions, so creditable to the humanity and benevolence of the inhabitants of Calcutta, the native hospital must be added. This institution is also supported by voluntary contribution, and was formed for the relief of natives, who, from accident or disease, might need medical aid. A very expensive establishment for the education of the junior servants of the company has lately been instituted; but as it is for business, and not for education, that these gentlemen are sent to India,
India, the utility of this measure has been questioned, and
the expense of it must have been enormous. Instruction, in
the native dialect, is, in general, the only requisite to qua-
lify them for the exercise of their duty, and this they have
hitherto received from "Mooneaces" at the leisure hours
that are not employed in their different vocations. Accord-
ingly the court of directors have abolished this college;
and this are at this time forming an establishment at home
which is likely, under proper conduct, to answer the pur-
pose at a much less expense.

Notwithstanding the perfection to which the medical art
has arrived by long experience, and its happy effect in pre-
venting the lives of many Europeans; and the knowledge
that has been acquired with respect to the fevers and the
whole train of bilious complaints that are incidental to the
country, and with respect to the most efficacious mode of
treating them; the climate of India proves a severe trial
every European constitution. Many fall sacrileges to its
fever attacks; many more linger on in a state of increasing
dubity, and painful disease; and others, who for years con-
tinue to combat its influence, apprehending that the conflict
must terminate fatally, are glad to retreat to Europe, there
to seek out, or to husband the remains of life. A fallow
and livid complexion is so universal in Bengal, that when
you behold a face of the roteate hue, you may venture to
pronounce that its owner is newly arrived. Even in the
ordinary health of persons not supposed to be materially in-
jured by the climate, they are capable of little exertion or
fatigue; and in the hot season of hardly any at all. It is
not uncommon to find, at that period, all the officers of a
battalion, except perhaps one or two, incapable of doing
; and this without any extraordinary or alarming com-
plaint. The fair sex are almost equally liable with the men
to suffer by the climate. Their regularity is often more
uniform, and their exposure to the weather less frequent;
yet there is hardly a single female complexion in Bengal
that retains the bloom of health. Formerly female adven-
turers in India were few; but highly successful. Embold-
ened by their successes, and encouraged by their example,
such numbers have embarked in this speculation, as threaten
to defeat its purpose. The irregularities of our government,
which formerly afforded an opportunity to some of rapidly
accumulating wealth, and enabled them to marry, are now
in a great measure done away. Few comparatively find
themselves in circumstances that invite to matrimonial en-
gagements; and on this account a number of unfortunate
females are seen wandering for years in a single and uncon-
ected state. Some are annually found to abandon the for-
lorn hope, and return to Europe, after the loss of beauty,
too frequently their only property.

Having mentioned the "black hole" at Calcutta, which is
become proverbial among Englishmen for place of insufferable
torment, we shall now recite some further particulars con-
cerning the tragic event to which we have referred. When Sur-
ajah Dowlah in 1756 reduced Calcutta, the English prisoners
to the number of 146, of whom Mr. Holwell was one, were
confined in the black hole prison. It was about eight o'clock when these 146 unhappy persons, exhausted by con-
tinual action and fatigue, were thus crammed together into
a dungeon about eighteen feet square, in a close, sultry night
in Bengal; shut up to the eart and south, the only quarters
from whence air could reach them, by dead walls, and by a
well and door to the north; open only to the well by two
windows. Strongly barred with iron, from which they could
receive scarce any circulation of fresh air.

They had been but few minutes confined before every
one fell into a perspiration so profuse, that no idea can be
formed of it. This brought on a raging thirst, which in-
craved in proportion as the body was drained of its moil-
iture. Various expedients were thought of to give more
room and air. Every man was flipp'd, and every hat put
in motion: they several times sat down on their hams; but
at each time several of the poor creatures fell, and were in-
stantly suffocated or trod to death.

Before nine o'clock every man's thirst grew intolerable,
and respiration difficult. Efforts were again made to force
the door, but still in vain. Many inflicts were used to
the guards, to provoke them to fire in upon the prisoners, who
grew outrageous, and many delicious. "Water, water," be-
came the general cry. Some water was brought: but
these fupplieys, like sprinkling water on fire, only served
to raise and feed the flames. The confusion became general,
and horrid from the cries and ravings for water; and some
were trampled to death. This scene of misery proved enter-
tainment to the brutal wretches without, who supplied them
with water, that they might have the satisfaction of seeing
them fight for it, as they spared it; and held up lights to
the bars, that they might lose no part of the inhuman
verdict.

Before eleven o'clock, most of the gentlemen were dead,
and one third of the whole. Thrift grew intolerable: but
Mr. Holwell kept his mouth moist by sucking the perspira-
tion out of his shirt-sleeves, and catching the drops as they
fell, like heavy rain, from his head and face. By half an
hour after eleven, most of the living were in an outrageous
delirium. They found that water heightened their uneasi-
nesses; and "Air, air," was the general cry. Every infust
that could be devised against the guard, all the opprobrious
names that the viceroy and his officers could be loaded with,
were repeated, to provoke to fire upon them. Every man had eager hopes of meeting the first shot. Then
a general prayer to heaven, to lessen the approach of the
flames to the right and left of them, and put a period to
their misery. Some expired on others; while a flame arso
as well from the living as the dead, which was very
offensive.

About two in the morning, they crowded so much to the
windows, that many died standing, unable to fall by the
throng and equal pressure round. When the day broke, the
French arising from the dead bodies was insufferable.
At that juncture, the Sonbabs, who had received an account
of the horrid death had made among them, sent one of his of-
icers to inquire if the chief survived. Mr. Holwell was
shown to him; and near six, an order came for their relea-

Thus they had remained in this infernal prison from eight
at night until six in the morning, when the poor remains of
146 fossils, being only 23, came out alive; but most of them
in a high mortal fever. The dead bodies were dragged out
of the hole by the soldiers, and thrown promiscuously into
the ditch of an uninhabited ravine, which was afterwards filled
with earth. See Bengal. Rennell's Memoirs, Pinker-

CALDA, or CALDUM, in the Ancient Diet, denotes hot
water, used much among the Romans, anciently, as a
drink, partly for pleasure, and partly for health.

The word is formed from calitus, hot; aqua being under-
stood; calit, q. d. calida aqua.

Lipius, Caltallo, Mercurialis, Baccius, and Freinhen-
mius, have treated largely de potu calde, or caliti. Aet.
Erod. Liof.

CALDAO, in Geography, a river of Portugal, which runs
into the sea, at Setubal.

CALDARA, Antonio, in Biography, and Musical
History, was a native of Venice, a great harmonist and com-
His the Calder-houfe, an tranflation and but town year, pieafant Tirabofchi. remarkable the Gallicia, a May river confequence continued, gravity and reckoned In purity 1682. Madrid, guide the ilyle profufe ceaft liis it during of fo operatherates AdriaTioin8vria; m mony, water, the rel Helen Caldas, a city, and adjoining to it an hospital for poor patients. Besides the springs used for drinking, three others supply four baths; and the united water from all the springs turns a mill near the bathing house.

Caldas de Rey, a town of Spain, in Galicia, 20 miles south of Santiago. Calder, a town of Midlothian in Scotland, situated in a pleasant country, at the distance of 12 miles west of Edinburgh. Here are two annual fairs, and a weekly market; but there is no manufactory, the population is but small. In 1792, it amounted to 562 inhabitants. A short distance west of the town, is Calder-leve, the seat of lord Torphichen. This mansion is memorable in the ecclefeial history of Scotland, as the place where the Sacrament was first administered after the reformation. The ceremony was performed by John Knox, the celebrated reformer, a portrait of whom is preferred in the house.

Calder, a river of England, which runs into the Clyde, about two miles north of the town of Inverary. It is navigable to Halkirk. Also a river, which runs into the Clyde, three miles south of the town.

Calder Water, a river of Scotland, which runs into the Clyde, about five miles above Glasgow.

Calder, a remarkable mountain in the Gulf of Venice, which is a guide at sea for the harbour of Rovigo, which ice.

Caldero, Cape, lies on the north coast of South America, W. of Otterby, and about 12 leagues N. by E. from the Caracas fort, called the White Cape. It lies nearly S. or a little westward from the town of Margarita Island, on the coast of the Spanish Main.

Calderon, de la Bana, Don Pedro, in Biography, a celebrated Spanish dramatic writer, flourished about the year 1640, and after having borne arms, and obtained the rank of a knight of the order of St. James, became an ecclesiastic, and a priest and canon of Toledo. Turning his attention to the theatre, he acquired the reputation of the most copious and esteemed writer for the stage, in Spain, and was sometimes denominated the Spanish Shakespeare. His fertility of invention, and the taste of his age and country, rendered him incorrect in the observance of the rules of the drama, and very unequal in his style and composition. His characters are unnatural, and his dialogue incoherent. His chief excellence consisted in the contrivance of plots, which are full of business, and abound in intricacies happily resolved in the catastrophe. Most of his works were collected and published at Madrid, in nine volumes, 1690. the three first containing farces, melodramas, and the rest, a number of dramatic pieces on religious subjects, like the Old Mysteries, under the title of Autos Sacramentales. His scanty knowledge of history has betrayed him into several blunders. Nouv. Dict. Hist.

Calderon, in Geography, lies on the coast of Coromandel, in India, five leagues N. from Tranquebar.
CALDERBURG, a township of Orleans county, in the state of Vermont, America, about 131 miles N.E. from Bennington, and 11 miles W. of Connecticut river.

CALDERWOOD, David, in Biography, a presbyterian divine of the church of Scotland, was the descendant of a good family in that kingdom; and being early defined to the ministry, he acquired, in the course of his education, an extensive acquaintance with those subjects that were particularly appropriate to his profession. About the year 1604, he was settled at Crielting near Jedburgh. Zestfully attached to the presbyterian establishment, he disapproved the project formed by King James I. of Great Britain, for bringing the church of Scotland to a nearer conformity with that of England; and when Mr. James Lauv, the bishop of Orkney, made a visitation of the presbyteries of Morfe and Tivottdale, as a preliminary towards suspending episcopal powers, he declined his jurisdiction by a paper under his hand, dated May 3, 1658. Thus did he commence that resistance to the measures of the king and episcopal party, which uniformly directed and influenced his future conduct. Accordingly, he did not assist at the general assembly held at Glasgow, May 8, 1616, in which lord Dunbar, the high treasurer of Scotland, presided as commissioner; and it appears from his writings, that he regarded all the transactions of this assembly as null and void. He also excepted against the proceedings of another general assembly held in 1616, at Aberdeen. When a parliament was held by the king in the following year at Edinburgh, and the clergy met, at the same time, in one of the churches, in order to confer with the bishops, thus contriving an assembly which was intended to resemble the English convocation; Mr. Calderwood, though he attended, publicly declared, that he did not consider any such meetings as resembling a convocation: and when he was informed that a bill was depending to empower the king, with the advice of the archbishop, bishops, and such a number of the ministry as his majesty might think proper, to consider and conclude as to matters decent for the public policy of the church, not repugnant to the word of God; and that such conclusions should have the force of ecclesiastical laws; he concurred, with other ministers, in a formal protest against the measure, for reasons which were subjoined. This protest was prefixed; and though the clerk-register refused to read it before the statutes in parliament, it had its effect: for although the bill had the consent of parliament, yet the king thought fit to set it aside, and soon after called a general assembly at St. Andrews'. In consequence of this protest, Mr. Calderwood was summoned before the high-commission court at St. Andrews', on the charge of mutinous and seditious behaviour. The king was present, and examined him in person; but Calderwood defended himself with such spirit and presence of mind, that in his refutation to acknowledge that he had been guilty of any crime, that he was first committed to prison; and then sentenced, by the privy council, to banish himself out of the king's dominions, and not to return without licence. All his efforts for mitigating this sentence proving ineffectual, he retired to Holland, where he steadily maintained his former principles, and in 1623, published his famous book, entitled "Altar Damafenny, seu Ecclesiae Angliciae Politia, Ecclesiæ Scotianæ obtra, a Forma ducta quadrada delineata, illiuftrata et examinata." This work contains a close and rigorous examination of the policy of the English church, under various heads, in which the origin and authority of episcopacy, and all the other points of difference, between that and the presbyterian churches, are discussed. King James is said to have expressed a high opinion of this work, though he was extremely displeased with it; and it is certain, that it made a great impression in England, and was very much admired by all avowed Puritans, and by such as were well-tilers to their opinions. The modern divines, however, would not concur in many of the author's sentiments; nor would they contend for the "Jus Divinum" of Presbytery. Soon after the publication of this work, Mr. Calderwood returned to Scotland, and lived privately for several years. As his situation was unknown, he had been unilltied in 1624, with a long and dangerous fit of sickness, a person, whose name was Patrick Scot, taking it for granted that he was dead, wrote a recantation in his name, purporting, that before his decease, he had changed his sentiments; but when this imposition was detected, he went over to Holland, and made diligent search for him, with a delign, as Mr. Calderwood believed, to have dispatched him. During his retirement, it is not unlikely, such were his talents and temper, that he wrote several books against the proceedings of the clergy in Scotland. But it is more certain that he employed himself in diligently collecting all the memorials relative to the ecclesiastical affairs of that kingdom, from the commencement of the reformation to his own time. Thence he digested and methodized with great care, and the whole is extant in MS. in the library of the University of Glasgow, in six folio volumes. Of these, an extract has been published, under the title of "The true History of the Church of Scotland," printed in 1618, which comes down to the death of king James. Although the perusal of this work, on account both of its spirit and style, cannot be disagreeable, and the representations contained in it must have acquired a strong tinge from party; it has, nevertheless, been always regarded as a source of much authentic information. How much longer the author survived is not known; but it seems probable, from his mentioning the death of Robert Bruce, which happened in 1631, that he lived pretty far in the reign of Charles I.; and we find that he was minister of Lenzie-land, near Edinburgh, in 1638. Biog. Brit.

Caldronazzo, in Geography, a lake of Germany, in the county of Tyrol; 8 miles E.S.E. of Trent.

Caldron, a large kitchen utensil, commonly made of copper; having a movable iron handle, whereby to hang it on the chimney-hook.

The word is formed from the French chaudron, or rather the Latin caldarium.

Caldrons, boiling in, calidriis decouers, is a capital punishment spoken of in the middle age writers, decreed to divers sorts of criminals, but chiefly to debaters of the coin. One of the torments inflicted on the ancient Christian martyrs was boiling in caldrons of water, oil, &c.

Calduba, in Ancient Geography, a town of Spain, placed by Ptolemy in Baetica, in the territory of the Turdetani.

Calduendo, in Geography, a town of Spain in the province of Guipuzcoa; 8 leagues east of Vitoria.

Caldy, a small island in the great bay of Carmarthens, in South Wales; on its west side, at S.S.E. from Tenby, forming an inner limit on that side to the bay, though it stretches out circuitously to St. Owen's point. It is about 3 miles from Tenby, and 5 leagues almost west from Wormshead, and has upon it a white tower appearing at a distance like a white sail, and serving to show where the land lies. Ships may anchor on every side of this island, and be sheltered from all winds. N. lat. 51° 33'; W. long. 5° 19'.

Cale, or Kale, in Botany. See Brassica, Dorecole, and Creosme.

Cale, in Scripture Geography. See Calah.

CAL


Gen. Ch. Cal. imbricated; scales oblong, rather loofe. Cor. uniform; florets hermaphrodite, numerous, equal, funnel-shaped; border five-cleft. Stam. filaments five, capillary, very short, anthers forming a cyndrical tube. Pijl. germ a little oblong; style thread-shaped, the length of the corolla; stigmas two, recurved, acute. Peric. the permanent calyx. Seeds solitary, oblong; down simple or none. Receptacle chaffy; scales a little longer than the calyx, standing out conspicuously among the florets.


Obf. A feed with a simple down forms part of the generic character of Calos, as drawn up by Linnaeus; and yet that character is found in only one of his own species. We have therefore found it necessary to exclude it from the essential character, in order to admit the oppositifolia and amellus; as Martyn and La Marché had already in some degree done; though we confess that, with the omission, the genus is not sufficiently discriminated from some others. The whole class fyngetia certainly stands in need of accurate investigation and cautious refinement. But this is a task on which we have no leisure to enter. We apprehend that we discharge our duty to the public, if we lay before it the present state of the science, and point out such deficiencies as occur to our notice. The scoparia, which Linnaeus at first made a chrysocoma, having a naked receptacle, cannot be a calca. As it differs from chrysocoma in the structure of its down, we have adopted the genus formed for it by Gartner.

Propagation and Culture. Thse plants may be propagated by seeds, treated like other natives of warm climates.

CALEAL, in Geography, a town of Persia, in the province of Aiderbizes, 142 miles S.E. of Tauris.

CALEB, in Scripture History, the son of Jephunneh, one of the messengers depcuted by Moses to explore the land of Canaan. Caleb and Joshua returned with a favourable report, revived the defeated spirits of the Israelites, and assured them of success in their projected invasion of the country. On this account it was predicted by Moses that they were the only two persons of all the people that came out of Egypt, who should live to enter the land of Canaan. Caleb was at this time 40 years old. After the Israelites, under the command of Joshua, had taken possession of Canaan, B. C. 1451, he divided the land in the year B.C. 1452; upon which Caleb obtained for himself the portion of the mountains and city of Kirjath-Arba, or Hebron, a district possessed by the three sons of Anak. Finding it difficult to expel them from the town of Debir, he promised his daughter Achsah as wife to any one who should take it. This was effected by Othniel, the son of Kenaz, Caleb's younger brother, who accordingly married Achsah. Caleb then settled at Hebron, and is laid to have lived in peace to his 114th year. Numb. xiii. xiv. Joshua xv. Judges 1.

CALEB, in Scripture Geography, a district of Judah, in which were the cities of Kirjath-Sepher, and Hebron, belonging to the family of Caleb. 1 Sam. xxx. 14.

CALECASIA, in Geography, a market town of Corsica, in the district of Nide.

CALED, or KHALED, Eben al Wald, in Biography and History, one of the most valiant, successful, and furious of Mahomet's captains, belonged to the tribe of Ko- reish, and began his military career with opposing the pretended mission of the prophet; and at the battle of Ohod, contributed by means of the wing which he commanded to the defeat of the Melems. Being afterwards converted, he became a principal champion in the impotior's cause, and obtained from Mahomet the honourable title of "one of the three leaves of God." This title was conferred upon him in consequence of the battle of Muts, A. D. 639, in which, after the fall of three succedive commanders of the Melems, he assumed the standard, and by his valour withstood and repulsed the superior numbers of the Chirilians. Upon the accession of Ahubecker, he was deputed with a small army to counteract the revolt of several Arabian tribes, whom he completely
C A L

plate C. 2 4. 1. He afterwards obtained a more important station by the popular Melecham, who fell in the battle, and whose brilliant victories were compiled to embrace the region of Damascus. In his subsequent invasion of Iraq, the ancient province of Babylon, he was eminently successful, and terminated his expedition by the capture of the city Hasana by the Persians, and the extinction of the kingdom, which took its name from that capital. From thence he was summoned to Syria to support the Mo-llums under the command of Abu Obeidah, who had met with several checks from the Greeks, and being appointed to supersede that general, he found the aspect of affairs. Having reviewed the detachment that believed Buften, he erected this place, and sided by treachery, took it. To the inhabitants, with a fierce and quarter, he bestowed himself mercifully, and redeemed the charge which they were suffering. On his arrival before Damascus, he vanquished by his personal valor two Christian commanders, and on their refusal to embrace Islam, put them to death in cold blood. Having collected a powerful body of Moizzins at Aemadin, in the year 6 5 3 , he totally discomfited Werdan, the general of Heraclius, and destroyed the greatest part of his army. During the progress of the siege of Damascus, many exploits of valor were performed by both parties; at length, however, the siege having been prolonged 7 days, the inhabitants sought refuge in the midst and general disposition of Abu Obeidah from the fury of Caled, and flung to surrender the place on moderate terms. In the mean while Caled interposed, prevented the execution of the treaty, and with savage ferocity, put to the sword all that came in his way; and meeting with Abu Obeidah, who was peacefully entering the city, a conflict ensued; one inflicting on the right of the sword, and the other urging the sacrefices of a capitulation. Caled in the stroke yielded to the pleas of mercy and true policy; and the sword was sheathed, on condition of admitting to tribute and toleration of religion those inhabitants who chose to continue in the city. The adherents of Thomas, however, who had fought under his banner in the defence of the city, embraced the alternative of poverty and exile. Accordingly in an adjacent meadow they formed an encampment of priests and laymen, of soldiers and citizens, of women and children; and being allowed to take with them their most precious moveables, and arms necessary for their defence, they prepared to abandon their native homes. Caled, whose in-\r\r\nvisible soul was not touched by the spectacle of their distress, ordered and recommended their departure; and firmly declared, that after a respite of three days, they might be pursued and treated as the enemies of the Moizzins. Unfatted with blood and vengeance, and further urged by the intercessions of Jonas, a noble Damascus, whose betrothed spouse had accompanied the fugitives, Caled at the head of 4000 horse, in the disguise of Christian Arabs, undertook the pursuit. Accordingly he traced their march across the mountains of Libanus, encountering incredible hardships, to the vicinity of Laodica, and in a pleasant valley where they had pitched their tents, rushed on the promiscuous multitude, insufficiently provided with arms, and already vanquished by for\r\nr\n
Ray and famine. In consequence of this furious onset and indiscriminate slaughter, the Arabs enjoyed the satisfaction of believing, that not a Christian of either sex escaped the edge of their scythes; and all the rich spoils of the victimes fell into the hands of the conquerors. In the tumult of the battle Jonas found the object of his pursuit; but her resentment was inflamed by the la\v\n act of his perfidy; and as Eudocia struggled in his hateful embraces, she struck a dagger to her heart. Caled had penetrated, on this occasion, about 150 miles into the Roman territory; and having completed this bloody tragedy, which has afforded a striking subject both to history and poetry, he returned to Damascus with the same secrecy and speed.

On the accession of Omar, who succeeded Abubeker in the caliphate, Caled was removed from the command; and it was again transferred to the more gentle and conciliatory Abu Obeidah. The army expressed their dissatisfaction with this change: but Caled, notwithstanding the characteristic ferocity of his temper, submitted to it with magnanimity; and having caused Omar to be proclaimed caliph at Damascus, resigned his command without hesitation, declaring his readiness to serve the Mussulman cause in any post which it should please the head of the religion to assign him. Soon afterwards his activity and enterprise were of signal service in relieving a party of the Moizzins, who had ineptly marched to plunder a famous monastery in the neighbourhood of Abyla, and who were surrounded by a much superior force. Caled himself had been relieved in familiar circumstances of danger, on a reconnoitering party, by a detachment sent by Abu Obeidah. Under this chief Caled served in Syria and Mesopotamia, and he always distin\r\nx\r

guished himself in seasons of peculiar difficulty and peril. Of his sub\v\nquent exploits the most eminent was the victory obtained by him in the battle of Yermuk, A. D. 6 5 6 ; on which interesting occasion the public voice, and the model of Abu Obeidah restored the command to him, who was esteemed the most defending of the Moizzins. The combat was oblique and bloody; 4230 of the Moizzins were buried in the field of battle; and the skill of the Armenian archers enabled 700 to boast that they had lost an eye in that meritorious service. The Syrian veterans acknowledged that it was the hardest and most doubtful of the days which they had seen; but it was likewise the most decisive. Many thousands of the Greeks and Syrians fell by the swords of the Arabs; many were slaughtered, after the defeat, in the woods and mountains; many, by mimicking the fords, were drowned in the waters of the Yermuk; and however the loscs may be magnified, it was undoubtedly very great. Abu Obeidah, in his letter to the caliph, states the number killed to have been 150,000, and the prisoners at 40,000. This computation exceeds all belief. Such was the success of the Saracens, that the Greek army durst no longer appear in the field; and the conquest of Jerusalem was the speedy result. In 6 5 8 , Caled took Aleppo, and he carried his victorious arms beyond the Euphrates. He survived about three years the piteance of 6 3 9 , which proved fatal to many Mussulman chiefs; but no account remains of the time or manner of his death. His tomb is known in the neighbourhood of Emcia. The valour of this champion was supported by fanaticism; for as long as he wore a cap, which had been blessed by Mahmoud, he deemed himself invulnerable. Mod. Un. Hist. vol. i. Gibbon's Hist. vol. ix.

CALEDON, in Geography, a small town of Ireland, in the county of Tyrone, and province of Ulter, near the river Blackwater, 70 Irish miles N. by E. from Dublin.

CALEDONIA, in Ancient Geography, an appellation by which that part of Great Britain now called Scotland was formerly distinguished. See Scotland. The etymology of this name, as well as the precise boundaries of the country to which it has been applied, have been variously affixed. According to Camden, the appellation of Caledonia is derived from the Celtic or Briton called Caled, hard; whence Caledonia, signifying a people, hardy, unrefined, and rude. Buchanan derives it from the old Scotch word, cailen, denoting a hazel-tree. Others (See Preface to Ossian's Poems, vol. ii. p. 4.) compound it of the two Briton words cael and dun, which signify the Gauls or Britons of the moun-


tains,
Caledonia.

Accordingly it is said, that this was a very proper name for the real Caledonians of Badenoch, Braithbin, and the adjacent tracts, which are the most mountainous parts of Scotland, and not very unsuitable to the other nations, to whom it was given by the Roman authors. Others again affirm, that Gaeu-doch is the only appellation, which the Scots, who speak the Gaelic language, know for their own division of Britain; and Gaeul-doch is a compound of Gaell or Caell, the first colony of the ancient Gaels who transmigrated into Britain, and doch, a district or division of a country. The Romans, by transposing the letter l in Caell, and softening into a Latin termination the ch of doch, formed the well known name of Caledonia.

The ancient Caledonia comprehended all that country which lay to the north of the rivers Forth and Clyde; or, as others state its boundaries, from the wall of Severus, connecting the east coast near Tainmouth with the Solway Firth, at Boulnefs, on the west coast, to the northern shore. The Caledonii of Poltney possesed that extensive tract of country which reached from the Lemanonian bay, or Loch fenn, on the east, to the estuary of Var or Firth of Tayne on the east coast; and included Badenoch, Braithbin, the inland parts of the shires of Murray, Banff, Aberdeen, and Perth. The Greek and Roman historians and poets, who flourished in the first, second, and third centuries, when they have occasion to mention the affairs of Britain, give the general name of Caledonii to all the British nations without the limits of the Roman province, and that of Caledonia to their country. The reason of this might be, that the Caledonii were the most powerful or warlike of those nations, and maintained some kind of superiority over the rest, who were contented to fight under their conduct against their common enemies, the Romans and provincial Britons. Hence the name of the Caledonii, from being the proper name of one nation, became the common denomination of many.

Caledonia seems to have been unknown to the Romans till Agricola entered it with his army, in his third campaign, A.D. 80. Marching from south-west towards the north-east, he traversed the territories of several British tribes, and penetrated to the river Tay, without opposition. The Caledonii seemed to have retired, hoping to recover in the winter, after the retreat of their enemies, what they had lost in the summer. But Agricola disappointed their expectations by employing the remainder of the season in building forts in the most convenient situations for keeping possession of the country. As soon as these forts were finished and flored with provisions, he put his army into them for their winter-quarters, that his troops might be every where at hand to check the attempts of the natives to shake off the yoke. Tacitus does not inform us, whether Agricola spent this winter in Caledonia, or in the more southern parts of Britain. See Agricola.

When Adrian arrived in Britain A.D. 121, he actively employed himself in fortifying the frontiers of the Roman possessions against the incursions of enemies. With this view he erected his famous rampart, or wall, as the boundary of the Roman province, from the mouth of the river Tine on the east, to the Solway firth on the west, near the track where Agricola had built his first chain of forts. See Adrian. Under the reign of Antoninus Pius, A.D. 138, Lollius Urbicus was governor of Britain; and in order to secure the peace of the Roman province in this island, it was found necessary to enlarge its limits. Accordingly Lollius Urbicus defeated the Meatae in several engagements, and recovered the country as far as the Ithamus between the fortress of Forth and Clyde. In order to secure his conquest, and to keep the Caledonians at a greater distance, Urbicus, by direction of the emperor, raised another strong rampart, in imitation of that of Adrian, between those two forts, along the line of forts which had been constructed there by Agricola. This rampart, with its ditch and forts, was intended for the utmost boundary of the Roman empire in Britain. In the year 182, the Caledonians, having broke through the wall of Antoninus, and being joined by the Meatae, invaded the Roman province. To repel this invasion, the government of Britain was bestowed upon Ulpius Marcellus, who, having first reformed the discipline of the Roman troops, led them against the enemy, and defeated them in several battles. During the contest which took place on the accession of Septimus Severus to the imperial throne, Britain became a scene of great confusion, A.D. 198. The Meatae and Caledonians, observing the defection of the Roman province, made incursions into it, and spread de-section in their progress. When Lupus was deputed by Severus to repel these invaders, he found himself unable to accomplish this object by force, and therefore bribed the plunderers to retire, by purchasing their prisoners with a sum of money. Their incursions, however, were renewed with greater violence for several years; and it was found necessary for Severus himself to visit Britain in person. The news of his arrival, A.D. 207, alarmed the Meatae and Caledonians, and induced them to send ambassadors to promise submission, and sue for peace. Severus, however, dismissed the ambassadors without any satisfactory answer, and advanced northward at the head of a very large army. When he had passed the wall of Adrian, he encountered many difficulties and dangers. His army was harried with continual skirmishes, and decayed into many ambuscades; and in his progress, he was obliged to employ one part of his army in cutting down woods, draining lakes and marshes, making roads, and crossing bridges over rivers, whilst the other part defended the labourers from the enemy. In this expedition Severus lost no fewer than 50,000 men, though he fought no battle, and saw no enemies in a body. At length he penetrated into the very heart of Caledonia, and struck such terror into its inhabitants, that they renewed their supplications for peace, which was at last granted them, on condition of relinquishing a part of their country, and delivering up their arms. Having concluded a peace with the Caledonians, and conducted his army back into the northern parts of the Roman province, he employed his troops for about two years in constructing his famous wall. Towards the dilatious decline of his life, A.D. 210, the Meatae and Caledonians took advantage of his weakness and the distraction of his family, and renewed the war in hopes of recovering that part of their country which they had been obliged to resign. The aged emperor, who had retired to York, became pœvish by his complicated sufferings, was enraged by the news of this revolt, and inflicted orders for exterminating these two nations, without sparing the very infants in their mothers' wombs. The execution of these cruel orders was prevented by the emperor's death. His eldest son Caracalla, as soon as he heard of his father's death, concluded a peace with the Meatae and Caledonians, and soon after left Britain.

When the emperor Severus invaded Caledonia, A.D. 207, we are told (Xiphilin. ex Dio Nicéo in Sever.) that the Meatae and Caledonians (who possessed all the island beyond the wall of Adrian), inhabited barren uncultivated mountains, and desolate marish plains; that they had neither walls, housettes, nor cultivated lands; but lived on the milk and flesh of their flocks and herds, on what they got by plunder, or caught by
by hunting, and on the fruits of their trees." Having been
obliged by Severus to surrender part of their country to the
Romans, the indolent people, in the course of the third
century, built several towns and stations, constructed high-
ways, cut down woods, drained marshes, and introduced
agriculture into the country between the walls, many parts
of which are very level, fertile, and fit for tillage. Al-
though the Romans never formed any large or lasting esta-
tlement on the north side of the Caledonian frontier, yet
many of them, and of the provincial Britons, retired into Caledonia at different times, and on various occa-
sions, particularly about the end of the third century, in
order to escape from the Diocletian persecution. It is,
therefore, highly probable, that these refugees instructed
the people among whom they settled, not only in their re-
ligion, but also in their arts, particularly agriculture. The
caledonian coasts of Caledonia were remarkably fit for cul-
tivation, and the Picts, who inhabited these coasts, were very
early acquainted with agriculture, which they undoubtedly
learned from the Romans, or the provincial Britons. The
name which was given to the Caledonians on the east, by
those of the west, was "Cruitnich," which signifies wheats
or corn cakes; a proof that they were husbandmen, and ex-
pressing the contempt or envy of the carnivorous highlander.
There is also reason to believe, that the Caledonians of the
west, who, in the fourth century, began to be called "Scots," denoting, in the Celtic language, wanderers or
vagrants, though they were of a more reticent and wander-
ing disposition than those of the east, and their country was
more mountainous, and not so fit for cultivation, were not
altogether ignorant of agriculture at this period. The
vicinity of the Hebrides, profusely watered along the west-
corn coast of Scotland, tempted the curiosity of these western Caledonians or Scots, and improved their skill; and they acquired, by flow degrees, the art, or rather the habit, of
managing their boats in a tempestuous sea, and of steering
their natural course by the light of the well-known stars.
The ancient Caledonians, and other Britons, educated in the
midst of arms, and accustomed from their infancy to hear
nothing admired or celebrated but valiant deeds in war,
lived upon every premonition but that of arms as unhonorable;
and every employment but war was as unworthy of a man of
patriot. To such an extravagant height did they carry these
abash and pernicious notions of honour, that they imagined
that those who followed any other employment, except that of arms, not only lived defiled, and died unla-
mented; but that their souls, after death, hovered in the
lower regions, among fiends and marlres, and never mounted
the skies, nor mingled with the souls of warriors in the airy
halls. Dio and Herodian seem to intimate, that the Mar-
ex and Caledonians were naked in the beginning of the third
century, when they were invaded by the emperor Severus.
But these authors probably meant no more than that these
people were very imperfectly clothed, or almost naked; and
they use expressions which admit of this interpretation. As
the Romans never conquered the Caledonians, or northern
Britons, they cannot be supposed to have made any material
change in their language; which is still spoken by their po-
pillar, in the highlands, and western islands of Scotland,
with less variation from the original Celtic (if we may be-
lieve some of the belt judges in these matters,) than in any
other part of Europe.

As early as the reign of Conflantine, the inhabitants of
Caledonia were divided between the two great tribes of the
"Scots," and of the "Picts;" the former postulating, as
we have observed, the western; and the latter, the eastern
division of that country. The power, and almost the me-

Tours issued a torrent, which appeared at a considerable distance white with its foaming waters; and trees are found growing in the bottoms of the ravines with which the hills are surrounded. These torrents are numerous, and, in some places, form fine cascades; and they serve also to fertilize the plains and valleys that are interposed among the barren mountains, and which exhibit traces of culture and population. The soil of the plains is a sandy black mould; the sides of the hills are yellow clay with mica; and the higher parts consist of quartz and mica, tinged red, or orange, with iron. Garnets are also found in petro-fles; and in several places white transparent quartz; with layers of gold, coloured mica, blended with serpentine, hornblende, talc, and garnets. New Caledonia differs from all the other islands yet discovered in the South Sea, by being entirely destitute of volcanic productions. Every part of the coast seems to be inhabited; and the plantations in the plains are cultivated with much labour. On the sides of the mountains small walls are raised above one another to prevent the rolling down of the ground which was cultivated. But as the country is for the most part rocky and barren, the inhabitants chiefly subsist on roots and fish. Some of them eat the earth called flette, which they probably make choice of to allay their hunger, because it is soft and crumbles, and is easy of digestion. They also boil, and eat a species of spiders, which are found in the woods. Like many other savages, they feed on the flesh of their enemies, which they previously broil on a fire of charcoal. This horrible practice of eating human flesh is confirmed by several facts recited by D'Entrecasteaux; notwithstanding the favourable accounts given of these islanders by captain Cook and Dr. Forster. They preferred water to wine or brandy; and in drinking it, inclined their heads at about two feet distance above the surface of the water, and then threw it up against their faces with their hands, opening their mouths very wide, and catching as much as they could.

The bread-fruit and cocoa-nut are scarce, and obtained with difficulty; although in some of the interior valleys there are considerable plantations of these, as well as of bananas, Caribbean cabbages (arum cicutarium), yams, fugar-canes, &c. but the island furnishes several new plants, birds, and fishes. The natives seem to be altogether unacquainted with goats, hogs, dogs, or cats, as they had not any name by which to distinguish them. The inhabitants are stout and tall, some of them measuring six feet four inches, and generally well proportioned; their features mild; their hair black and woolly; but many, who seemed to be defirous of having the appearance of long hair, fattened to their own locks two or three turqies, made with the leaves of plants of the graft kind, and covered with the hair of the Vampire bat, which hangs down to the middle of their backs. Some of them cropped their hair short, and used a kind of comb, formed of a number of sticks of hard wood, generally about 20, which they fastened together at one end, and parallel to, and nearly one tenth of an inch from one another; and these combs they always wore in their hair, on one side of the head; on their heads they wore a kind of crown, cylindrical black cap, made of strong paper, which they seemed to consider as an ornament, and which, it was supposed, was worn only by the chiefs and warriors. The custom of pulling out their beards by the root is very general, although some of them let their beards grow. Their skin is nearly as deep as black as that of the inhabitants of Diemen's Cape, whom they very much resemble in the cast of their countenance. These islanders are wholly naked, except that they wear round the middle pieces of coarse stuff, made of bark, or large leaves of trees. In some cafes, pieces of this kind of cloth were fastened by a string round the neck, and to this string were hung small round beads of a pale green stone. They were not defirous of coarse garments made of matting, but they never seemed to use them except in their canoes, and when unemployed.

The women in this island seemed to be in a subordinate and servile state, and employed themselves in various kinds of labour. Their colour is generally a dark chestnut, or a mahogany brown; their stature is middle-sized, rather tall, and their whole form stout and clumsy. They had no other garment besides a kind of fringe, made of the filaments of the bark of trees, which served them as a girdle and palfed several times round the waist. Their character of chaitly is superior to that of the females in the other isles of the Pacific; nor did any instance occur of their permitting any indecent familiarity with an European during eapt. Cook's stay at the island. But the account of their chaitly given by D'Entrecasteaux is not sufficiently their reputation. The lower lobe of the ears, both of males and females, perforated with a very large hole, hung down to their shoulders; and into these holes some introduced leaves of trees, others a piece of wood, in order to stretch them bigger. Several had this lobe jugged; probably from having been torn either in battle, or in running through the woods. Their general ornaments are ear-rings of tortoise-shells, necklaces, or amulets, made both of shells and stones, and some of twisted threads, suspended from which they usually carried at the end of a string a small piece of human bone, or hard stone, indifferently carved; and bracelets made of large shells, which they wear above the elbows. By the account of Cook and Forster, the Caledonians are represented as different from the other natives of the South Sea islands, with regard to their honesty and the inoffensive ness of their disposition and manners. This account is not confirmed by D'Entrecasteaux. He says, that whilst they asked for fluffs and iron in exchange for their effects, they soon gave evidence of their being audacious thieves; and he mentions several instances of the ferocious ness of their dispositions, such as their feeding on the flesh of children, &c. Of their being cannibals there is no doubt; and they are furnished with an instrument, made of stone, with sharp edges, for cutting up the limbs of their enemies, which they divide among them after a battle. Their huts or huts are circular, formed in the shape of beehives, about ½ to few in height, and as much in breadth, close and limed, as there is no passage for the smoke but through the door. Some of these huts are scattered at the distance of three or four hundred paces from each other, and overshadowed by a few cocoa-trees. Some of them are surrounded by palisades ½ yard high, and ½ feet from the borders of the hut, with a narrow walk before the door. The door, about a yard high and half a yard wide, is sometimes closed by a piece of the limb of a cocoa tree, the leafy branches of which are interlaced. Of these doors some had two polls, at the upper extremity of which a man's head was rudely carved. The lower part of these huts is erected perpendicularly to the height of a yard, and then tapered off in a pretty regular cone, and terminated by the upper end of a poll, fixed in the centre of the floor. The frame of the hut consists of poles, bearing against the upper end of the poll, which rises from the middle of the floor, and is near three inches in diameter at the bottom. A few pieces of wood bent to an arch, render these little habitations sufficiently strong. They are covered with straw to the thickness of two or three inches; and the floor, on which the natives are perfectly sheltered from the weather, is laid with mats. Within the hut on one side is a board, fastened with cords in an horizontal position, about a yard from the ground, on which...
which they deposit anything out of the way. The magotties, however, are to troublesome in these huts, that they are obliged to light fires to drive them away when they go to sleep; and as there is no vent for the smoke, except at the door, they must be extremely recommended by it. Near the base of their dwellings are little hillocks of earth, 12 or 14 inches high, with a very open trellis in the middle, of the height of two or three yards; called by the natives "Nabout," which are the graves in which they bury their dead. Those in which their chiefs, slain in battle, are interred, are decorated with spears, darts, paddles, &c. stuck upright in the ground about them. Their canoes are made of two trees, hollowed out, having a radius grumul about two inches high, and closed at each end with a bulk-head of the same height; so that the whole resembles a long square trough about three feet shorter than the body of the canoe. Two canoes thus fitted are fastened to each other about three feet asunder, by means of crofs-spears, which project about a foot over each side, and form a platform. Their mail is fixed at an equal distance from the two canoes, and towards the front of the platform, by which they are joined together. On the platform they have a fire-hearth, and generally a fire burning. They are navigated by one or two latteen falls, extended to a small latteen yard, the end of which is fixed in a notch or hole in the deck. Each canoe has a large hole, fastened to a long rope, which serves as an anchor. These canoes, however, are not so skillfully constructed as those of the Friendly islands, to which they are much inferior in point of failing. As the Caledonians are a warlike people, they are furnished with a variety of offensive weapons, as clubs, spears, darts, and flings for throwing stones. Most of these islanders are armed with spears and clubs, and carry at their waist a little bag full of stones, cut into an oval shape, which they throw with slings. Their clubs are of different forms; and, as well as their darts and spears, are curiously carved, neatly constructed, and highly polished. Their javelins, which are commonly 15 feet long, are not more than 3/4 inches in circumference at the middle. They are peculiarly dextrous in their mode of throwing them, and of accelerating their motion. For this purpose they employ a very elastic cord, made of the covering of the cocoa-nut and fish-skin, one extremity of which they fix to the end of the forefinger, and the other which terminates in a foot of round button, is twitted round the end of the dart, but in such a manner as to quit its hold as soon as that weapon is thrown into the air. It is somewhat surprising that they are unacquainted with the use of bows and arrows. Their language is different from that of the Friendly islands, though some of their terms resemble those used by the inhabitants of the other islands. D'Entrecasteaux has annexed a vocabulary of their language. Their vocal music, however agreeable to themselves, is harsh and discordant to the ears of Europeans. The only musical instrument which they seem to possess, is a kind of whistle, formed of a little polished piece of brown wood about two inches long, shaped somewhat like a bell, suspended with a rope fixed at the small end; it has two holes near the base, and another near the infection of the rope, all which communicate with one another; by blowing in the uppermost, a shrill sound, like whistling, is produced. These islanders are fond of victuals on naiis and hatchets than any other inhabitants of the South seas islands. They appeared, however, to be acquainted with iron, for they had a term for expressing it; but as they used hard stones for purposes to which iron instruments might be applied, this metal was left important to them than to some of the other islanders. The variation of the needle in this island was 9° 30' towards the east. The mercury in the barometer never rose above 28 inches, 2 lines, and 2-10ths, and never fell below 28 inches, 1 line, and 4-10ths. Notwithstanding the excessive heat which the French voyagers felt on the coast, Reaumur's thermometer never exceeded 25°, and on board never rose above 21°. The tides were not observable above once a day; the flood taking place at half past six, and the ebb rising in perpendicular height, 4 feet 7 inches. The government and religion of the Caledonians nothing is known. Labillardiere's Voyage in search of La Perouse.

CALEDONICA, in Ornithology, a species of Aedea, called by Latham the Caledonian night heron, from its being a native of New Caledonia. The general colour of the plumage is ferruginous, and beneath white; crest on the hind head of three feathers; frontlet black; eye-brows white.

Obf. This bird is an inhabitant of various parts of the Australasian regions as well as New Caledonia. Its length is 22 inches; bill black; area of the eyes green; legs yellow.

CALEFACTIUM, in Medicine, are those substances which, when taken internally, increase the temperature of the body, or produce a febrifation of local or general warmth. In the language of the present day, they are distinguished cordials or stimulants. They may produce a febrifation of warmth by their immediate impression on the nerves, without any actual increase of temperature; but they also tend to accelerate the circulation, and therefore to augment the actual heat. For it has been ascertained that the animal temperature is generated by the chemical changes which take place in the blood in the course of circulation, in consequence of the absorption and evaporation of different gaseous fluids. Whenever, therefore, the rapidity of the circulation at large is increased by general stimulants; or the vessels of any particular part are, by a local stimulus, excited to greater action, and transmit a larger proportion of blood; the evolition of heat will necessarily be augmented; there will be a febrifation of warmth in the general system, or in the particular parts respectively. See Stimulant and Caridac.

CALEFACTION, denotes the production of heat in a body by the action of fire; or the impulse which the particles of a hot body imparts to other bodies around it.

The word is particularly used in pharmacy; where calefaction is distinguished from coction: the first being applied where the thing is only heated, without boiling.

CALETTA, or CALLELLA, in Geography, a fishing village of Catalonia in Spain, 3 leagues from Matara. Its population consists of 886 persons, and it employs near 50 fishing-boats.

CALEMUT. See Salamanie.

CALEMBURG, a principality of Germany, in the circle of Lower Saxony, which takes its name from an ancient castle, now in ruins, situated on the Leine, about 11 miles S. from Hanover. Calenberg is divided into two parts by a portion of the principality of Wolfenbuttel; of which the northern part is surrounded by the principality of Luneburg, the diocese of Hildesheim, the principality of Wolfenbuttel, the counties of Pyrmont, Lippe, Schauenberg, and Hoya, and the principality of Minden; and the southern part by the principalties of Wolfenbuttel and Grubenhagen, and the territories of Eichsfeld and Lower Hesse. This principality constitutes a part of the duchy of Brunswick, and is chiefly formed of counties, lordships, and ecclesiastical states. The country is in some parts mountainous, in some marshy, and in others sandy, but generally fertile; producing wheat, rye, barley, oats, lentils, peas, beans, vetches, buck-wheat, excellent garden-Ruff, tobacco, hops, flax, and plenty of good fruit.
fruit. It has likewise forests of oak, beech, alder, pine, birch, &c. which afford timber for the building of ships and houses, and also wood for fuel and other uses. It also supplies large breeds of horses, black cattle, and sheep, together with venison and fish. In several places are mail-pits, quarries of freestone, and mill-stones, with brick-kilns, turf and coal-pits, rich iron ore, and salt springs. It has also numerous manufactories of woollen and linen, cotton and silk, oil-skins and carpets, leather and paper, and stone ware, both for home consumption and for exportation. Its foreign trade is greatly facilitated by means of the Weser, and the country where the Leine has been rendered navigable. In this principality are 19 cities, the principal of which are Hanover and Gottingen, 17 market-towns, 27 Lutheran parochial churches, 5 Calvinistic, 2 Catholic, 2 Lutheran abbies, one Catholic monastery, 5 Lutheran convents for ladies, and 24,700 taxable hectares. Several of the cities possess both the civil and criminal jurisdiction, but in these appeals lie from the magistrate to the upper courts of justice. The other cities are entirely dependent on the bailiwick. The flates of the country are composed of the prelates and nobility, which are divided into three departments: viz. theofe of Hanover, Gottingen, and HanneH, with the department of Lavenau. These flates have their synods and other officers, but of the nobility of each department two provincial deputies are elected. This principality has a vote both in the imperial college of princes and in the diets of Lower Saxony. Its material allusion is 22 1/2 horse and 140 foot; or 686 florins. All the rivers in this principality discharge themselves either into the Leine or the Weser.

The bailiwick of Calenberg is 4 German miles in length, and 3 broad, extending as far as Hanover. The culture of grain and flax is the principal occupation of the inhabitants. In the whole bailiwick are one town, viz. Gehren and 60 villages.

CALENDAR. Calendarum, or Calendar, a distribution of time, accommodated to the uses of life; or a table, or almanac, containing the order of days, weeks, months, feasts, &c. happening throughout the year. See Almanac, Time, Month, Year, &c. It is called calendar from the word calendar, anciently wrote in large characters at the head of each month. See Calends.

The days in calendars were originally divided into octo-ades, or eighties; but afterwards, in imitation of the Jews, into hebdomades, or sevens; which custom, Sculiger observes, was not introduced among the Romans till after the time of Theodosius.

There are divers calendars, according to the different forms of the year, and distributions of time, established in different countries. Hence the Roman, the Jewish, the Persian, the Julian, the Gregorian, &c. calendars.

The ancient Roman calendar is given by Ricciulius, Struvius, Danet, and others; by which we see the order and number of the Roman holy-days, and work-days.

The three Christian calendars are given by Wolfius in his Elements of Chronology.

The Jewish calendar was fixed by rabbis Hillel, about the year 376, from which time the days of their year may be reduced to those of the Julian calendar.

Calendar, the Romans, owed its origin to Romulus; but it has undergone various reformations since his time. That legislator distributed time into several periods, for the use of the people under his command: but as he was much better versed in matters of war than of astronomy, he only divided the year into ten months, making it begin in the spring, on the 1st of March: imagining the sun made his course through all the seasons in three hundred and four days. According to Plutarch, (in Numa,) these months had no certain or equal number of days, some consisting of 29, some of 35, and some of more. But Macrobius informs us, (Sat. I. c. 12.) that Romulus settled the number of days with greater equality, alloting to March, May, Quintilis, and October, 31 days; and to April, June, Sextilis, September, November, and December, 30; making up in all 364 days. From a passage in Plutarch, (ubi supra,) it appears, that two intercalary months were added to every year; for he says, that the Latins, not understanding the difference between the solar and lunar year, nevertheless provided, that the year should contain 360 days. But these intercalary months were not inflected in the calendar. To these no names were affixed until the succeeding reign.

The calendar of Romulus was reformed by Numa, who, at first, intended to make a complete lunar year of 354 days. With this view, he added 30 days to the 304, which had been divided into 10 months. From every one of the months of 30 days, he borrowed one day, which he added to the 50 already mentioned; of these 56 days he composed two months, calling the one January, and the other February. Not long afterwards, he added one day to January; and thus made his year to consist of 355 days; adding one odd day more than he ought to have done, merely out of superstition, to make the number fortunate. However, he would not allow more than 28 days for February; and, therefore, that month was always accounted unlucky. Moreover, he transferred the beginning of the year from March to January, reckoning March the second, April the third, &c. placing February in the end of the calendar.

(Ovid. Fast. I. ii. v. 47.) In order to adjust the lunar year to the solar, he added 90 days in eight years; because the latter is 114 days greater than the former, and 114 x 8 = 912. Of these 90 days, four months were composed, consisting of 22 and 23 days alternately; and one was intercalated every two years; i.e. to the second year 22 days were added; to the fourth 23 days; to the sixth 22 days; and to the eighth 23 days; in all 90 days. The intercalary month formed of these days was called "Mercedius," or "Meredonius," from the Latin word "merces,"figuing wages, probably, because this time was appointed for the payment of workmen and domestics; and it was inserted after the 23d of February; and the remaining five days of that month were subjoined. By these intercalatums, the quantity of the year became too great; and the excess in eight years amounted to 84 1/8 27/360 nearly. To cut off this excess, it was proposed, in every third centennial period, that is, from 16 to 24 years, to insert not 90, but 60 days, or three months of 22 days, a quantity still too great by 4 28 26; but sufficiently accurate for all the purposes of common life. The year of Numa admitted of no alteration until the year B. C. 457, when the decennalia changed the order of the months, reckoning January the first, February the second, March the third, &c. This arrangement has never been disturbed.

However, the intercalations above mentioned being ill observed by the pontiffs, to whom Numa committed the care of them, occasioned great disorders in the constitution of the year, which Julius Caesar, with the advice and assent of Sofogenes, a celebrated mathematician of Alexandria in Egypt, undertook to rectify. A. U. C. 758. B. C. 46. He found that the months had considerably receded from the seasons to which they had been adjusted by Numa, and that the diæmension of time in the calendar could never be settled on any sure footing, without having regard to the annual course of the sun. In order to bring forward the months
months to their proper places, he took into the account 90
days which had been lost by the former method of reckon-
ing, and formed a year of 15 months, or 445 days, which,
on account of its quantity and design, has been called "the
year of confusion." This year terminated, and the Julian
year commenced on the 1st of January, B.C. 46. From
this epoch, the civil year and months were regulated by the
course of the sun. The year of Numa being 10 days shorter
than the solar year, two days were added by Julius Cæsar
to each of the months of January, August, and December, and
to April, June, September, and November. More-
over, as the annual revolution of the sun is completed in
365 days, and about six hours, he made the year to consist
of 365 days for three years successively, and every fourth
year, of 366, in order to comprehend the odd six hours.
Accordingly, he ordained, that an intercalary day should
be added every fourth year, to the 23d of February; that
is, the 24th day, or fifth of the calend of March, was to
be twice reckoned; and hence this year was called Bissexti-
til, which feé. It is also styled "Leap-year," from its
leaping a day more than that year, in a common year.
Hence it appears, that the Roman, called also the Julian
Calendar, from its reformer Julius, is disposed into quadri-
ennial periods; of which the first three years, which he
called communes or common, consist of 365 days; and the
fourth Bissextile.

The regulations which Julius Cæsar had established were
misapplied by those who had the direction of the calendar.
They intercalated every third, instead of every fourth year;
so that, in the interval of 36 years, three days more than
the due number were inserted. This error, however, was soon
perceived. For the correction of it, Augustus ordained,
that the intercalations should be omitted in the following
years; viz. in the 41st, 45th, and 49th of the Julian era.
This form of the year, thus corrected, was adopted in Italy,
and in several other provinces of the Roman empire. By
some nations, the lunar year was retained, and the days and
months were reckoned by the course of the moon. Modern
chronologers have used the Julian year, being a measure of
time extremely simple, and sufficiently accurate: and to
this standard they refer all events that have happened from
the beginning of the world.

The Julian year, however, though admirably adapted to
common use, was still imperfect: for as the time in which
the sun performs his annual revolution is not exactly 365
days six hours, but 365 days five hours, 48 minutes, and
45 1/4 seconds, the civil year must therefore have exceeded
the solar year by 11 minutes, 14 1/4 seconds; which, in the space
of about 130 years, amounted to a whole day; and, confe-
quently, in 47450 years the beginning of the year would
have advanced forwards through all the feasons; and in
half this interval of time, the summer solstice according to
the calendar, would have fallen in the midst of winter, and
the earth have been covered with frost, when the bloom of
vegetation was expected. It cannot be imagined that So-
figenes was totally unacquainted with this error: though he
probably thought it much smaller than it is, and therefore
neglected it. Among the first of those who discovered the
imperfections of the Julian calendar, were the venerable
Bedo, about the year 730, Johannes de Sacro Boteo, about
1233, and Friar Bacon, about 1255. These great men
had observed, that the true equinox preceded the civil one
by about a day in 130 years. Sofigenes, in the reign of
Julius Cæsar, had observed the vernal equinox on the 25th
day of March. At the council of Nice, held in 325, it was
fixed on the 21st of March; and from that time to the year
1582, when the next reformation was effected, the error,
accumulated by this means, amounted to about 10 days; so
that the vernal equinox was now found to happen on the
15th of March, instead of the 21st, as it ought to have
been in 1582, if the Julian account had agreed with the course
of the sun. This manifest anticipation of the equinox, which,
in the course of more than a thousand years, had become
too considerable not to be noticed, was first proposed to
the councils of Constantine and Latran by two cardinals,
Petrus ab Aliaco, and Cusa, who showed the cause of the
error, and the means of correcting it. In the year 1474,
oppe Sixtus IV. being convinced of the necessity of a refor-
mation, sent for Regiomontanus, a celebrated mathe-
matian, of that period, to Rome, and presented him to the
archbishopric of Ratibon, in order to engage him in this
undertaking. But a premature death preventing his assis-
tance, and no one being thought worthy to be his successor,
the project was, for that time, suspended. Although the
necessity of some alteration was acknowledged, it was after
the lapse of 100 years that pope Gregory XIII. had
the honour of accomplishing what several preceding pontiffs
and councils had attempted in vain. He invited to Rome a con-
siderable number of mathematicians and astronomers,
employed 10 years in the examination of their several formulæ,
and, finally, gave the preference to the plan proposed by
Alofius and Antonius Lilius, two brethren of Verona.
He transmitted copies of this plan, A.D. 1577, to all cat-
tholic states, academies, &c. A council of the most learned
prelates was convened by the pope, and the subject being
finally settled, a brief was published in the month of March,
A.D. 1582, by which the use of the ancient calendar was
entirely abrogated, and the new one substituted in its stead,
called, from the pope’s name, the Gregorian Calendar,
or New Style.

The first object of the reformers was to correct the errors
of the former method of reckoning, and to make the
length of the year agree more exactly with the course of
the sun. For this purpose it was agreed, that the 10 days
which had been gained by the old account, should be
taken from the month of October of the year then cur-
rent, and the equinox brought back to the 21st of March,
as it had been settled by the council of Nice. And, in
order to prevent the future recurrence of a similar variation,
it was ordered, that, instead of making every hundredth year
a Bissextile, as was the case in the former method, every
four-hundredth year only should be considered as a Bissextile,
and the rest be reckoned as common years. The length of
the solar year, and the time of the vernal equinox, were
by these means very accurately settled; for as a day was
saved by the former method of reckoning, in every interval of
130 years, this was nearly equivalent to a gain of three days
in every interval of 400 years; and, consequently, by mak-
ing the years 1700, 1800, and 1900, to be common years,
instead of leap-years, the error arising from the odd time
would be properly corrected. The great difficulty, how-
ever, consisted in making the lunar year agree with the
solar one, and in settling the true time for the observance
of Easter and other movable feasts, which had been subjec-
to no fixed rule. It had been ordered by the Council of
Nice, that Easter should be celebrated upon the first Sun-
day, after the first full moon, following the vernal equinox.
And in order to the due observance of this rule, it became
necessary to know the days when the full moons would hap-
pen, in the course of every year. But this knowledge
was not easily obtained; for the period of Meton, which made
19 years exactly equal to 235 lunations, or revolutions
of the moon, was found to be too long by about one hour
and thirty-two minutes; and, consequently, after 16 of these
periods
periods, the true phases of the moon would precede those
shown by the calendar, by more than a whole day. At
the time when the Gregorian Calendar was first intro-
duced, the error thus occasioned amounted to four days; and
if the old method of computation had continued, the ca-
dendar, in time, would have announced the full moon at
the time of the change, and Easter would have been celebrated
at a period directly opposite to that established by the
church. It was necessary, therefore, to devise some method
for correcting these errors; and Lilius was so fortunate as to
discover, that the 19 years or cycle of Meton had a partic-
ular property, which would render it subservient to the
purposes required. The new and full moons, which, ac-
tording to Meton, were imagined to happen at the same time
precisely as they had occurred 19 years before, were in-
formatively indicated in the following manner: they observed on
what day of each calendar month the new moon fell in
each year of this period, and against those days they placed
the number answering to that year, reckoning from 1 to 19,
through all the years of the cycle. These numbers were
called "Primes" or, "Golden Numbers" (which see); but
as Lilius found them to be erroneous and inconvenient, he
rejected them from his system, and made use of others, called
"Epacts," in their stead. See Epact. These epacts,
being placed against the days of the month in the calendar,
on which the new moons fell in each year, would have an-
twiced the same purpose with the golden numbers; and if
the Metonic cycle had been complete, the form would have
required no alteration: but this is not the case, for after
about 16 of these periods, or 300 years, the new moons
arriving sooner by 24 hours, would happen on the preced-
ing day; and, therefore, the epacts answering to those new
moons ought to be augmented by unity. For, supposing
that the second year of the lunar cycle had 11 for the epact,
then, because the new moon, in the preceding year, arrived
11 days before the end of December, after 300 years, the
same new moon, of the first year of the cycle, would arrive
12 days before the end of the year; and, consequently, the
second year ought now to have 12 for the epact. This
number 12, therefore, will be the index of the new moons
in that second year; and it is easy to perceive, that all
the new moons which happen sooner by a day will take
place upon the day preceding that which in the former
period was marked 11. After 300 years more, the epact
will be 13, which will be a day still preceding that in the
latter period; and the same will happen with all the other
epacts of the cycle. It was this kind of analysis that sug-
gested to Lilius the idea of placing the epacts in their natural
order against the days of the new moons in every year, for
the first 300 years; and after that period, to place them in
the order 1, 12, 23, 4, 15, 26, 7, 18, 29, 10, &c. instead
of the former one; and so on.

This arrangement was simple and ingenious; but the
omission of 3 days in every 400 years was a circumstance
which occasioned some embarrassment. These years having
a day less than in the Julian account, the new moons would
happen a day later, and, consequently, the epact, at the
end of the year, must be diminished accordingly. But as
this order is only interrupted once in 100 years, Lilius ima-
gined, that by subtracting unity from each of the epacts
belonging to those new moons, they might be made to
serve for the subflequent century. And as there are only
30 possible series of these numbers, it was sufficient to
hew by a table, what series belonged to every century, by
which the times of the new moons might be readily discovered.

When pope Gregory had reformed the calendar in the man-
ner above stated, he ordered all the ecclesiastics under his jurif-
diction to conform to this new method of reckoning, and ex-
ported the Christian princes to adopt it in their dominions.
Accordingly it was immediately introduced into all catholic
countries. In Spain, Portugal, and part of Italy, it was re-
ceived on the same day as at Rome; but it was not admitted in
France until the month of December, when the 10th was
reckoned the 20th day, according to letters patent of king
Henry III. dated the 3d of November preceding. The ca-
tholic states in Germany adopted the Gregorian calendar,
A.D. 1582. But the protestant states at that time refused it.
The reformed religion was in its infancy; the zeal of its pro-
fessors was violent, and their opposition to the pope unbounded.
Whatever bore the appearance of his authority was rejected
as an unwarrantable encroachment upon their newly-acquir-
ed liberties; and though the propriety of the alteration was
acknowledged, it was condemned on account of its origi-
nating with a party so extremely obnoxious to them.
Hence arose a difference of 10 days between the methods
of reckoning afterwards used in Catholic and Protestant
countries. When a billet-doux was suppressed, the difference
amounted to 11 days. This difference between the old and
new style, as the Julian and Gregorian accounts are generally
called, occasioned great confusion in the commercial affairs
of the different states of Europe; and therefore the Gregorian
style was, at length, generally received. The Protestant states
in Germany reformed their calendar in Feb. A. D. 1700.
The new style was introduced into Denmark about the same
time; and into Sweden, March 1753. In Great Britain the
inconvenience arising from these two modes of reckoning was
much felt, and several attempts were made to introduce the
reformed calendar. But popular prejudices were for a long
time too obstinate to be easily overcome. The mathema-
ticians, indeed, more influenced by scientific considerations
than by views about points of religion, incessantly urged
the necessity of some correction, and proposed various
methods of effecting it, which might be adopted without in-
flaming the minds of the multitude. Among others it was
proposed, that an act should be passed, declaring that there
should be no leap-year for 40 years to come, by which means,
the 10 days that had been gained by the old ac-
count would have been imperceptibly lost, and the old
style reduced to the new, without any sensible variation in
the fixed times of feasts and other observances. A pro-
aposal of this kind was sent to Dr. Wallis, professor of geo-
metry at Oxford, for his opinion; but the doctor, with a
degree of prejudice altogether inconsistent with his ex-
clusive erudition, observed, that the proposal was specious
enough in appearance; but that the hand of J ab might be
perceived in it. He imagined it to have originated with the
papists; and though he acknowledged the propriety of it,
he was afraid of its being adopted, lest it should open the
door to further encroachments. But though all propos-
als were at that time rejected, those who wished for a re-
formation still renewed their applications; and in 1752, an
act of parliament, after much debate, was obtained for this
purpose. As 170 years had elapsed since the Gregorian
alteration took place, the old style had consequently gained
above a day more upon the course of the sun than it had at
that time: it was therefore enacted, that, instead of cancel-
ing 10 days, as the Pope had done, 11 days should be left
out of the month of September; and, accordingly, on the
2d day of that month, the old style ceased, and the next
day, instead of being the third, was called the 14th. See
Style. By the same act, the beginning of the year was
changed from the 25th of March to the 1st of January.
Russia is the only civilized state of Europe that now retains
the old style.

5 D 2
CALENDAR.

Calendar, Julian Christian, is that wherein the days of the week are determined by the letters A, B, C, D, E, F, G, by means of the solar cycle; and the new and full moons, especially the pashal full moon, with the feast of Easter, and the movable feasts depending thereon, by means of golden numbers, rightly disposed through the Julian year. See the preceding article. See also Cycles, and Golden Number.

Calendar, Gregorian, is that which, by means of epacts, rightly disposed through the several months, determines the new and full moons, and the time of Easter, with the movable feasts depending thereon, in the Gregorian year. The Gregorian calendar, therefore, differs from the Julian, both in the form of the year, and in that epacts are substituted in lieu of golden numbers; for the use and disposition whereof, see Epact.

Though the Gregorian calendar be preferable to the Julian, yet it is not without its defects (perhaps, as Tycho Brahe and Cavallini imagine, it is impossible ever to bring the thing to a perfect fulfillment). For, first, the Gregorian intercalation does not hinder but that the equinox sometimes succeeds the 21st of March, as far as the 23d; and sometimes anticipates it, falling on the 19th; and the full moon, which falls on the 20th of March, is sometimes the pashal; yet not so accounted by the Gregorians. On the other hand, the Gregorians account the full moon of the 22d of March the pashal; which yet, falling before the equinox, is not pashal. In the first case, therefore, Easter is celebrated in an irregular month; in the latter, there are two Easters in the same ecclesiastical year. In like manner, the cyclical computation being founded on mean full moons, which yet may precede or follow the true ones by some hours, the pashal full moon may fall on Saturday, which yet is referred by the cycle to Sunday; whereas, in the first case, Easter is celebrated eight days later than it should be; in the other, it is celebrated on the very day of the full moon, with the Jews and Quoddecimian heretics, contrary to the decree of the council of Nice. Mazlin, Vida, Scaliger, Calvins, and other mathematicians, flae others faults in the Gregorian calendar, arising from the negligence and inadvertency of the authors.

Clavius, to whom the conduct of this business was assigned, after the death of Lilias, composed in 1603 a large work in vindication of it, and successfully combated its adversaries. Defects, it is acknowledged, are to be found in this calendar; but the reformers deserve praise for what they actually did, in an undertaking which does not admit of perfection. Dr. Playfair, in his "System of Chronology," p. 19, observes, that the method of interpolation used in the Gregorian calendar is not the most accurate. Nine, seven days, or 500, are intercalated in the space of four centuries. This supposes the tropical year to consist of 365$1/4$, 5 days. On this supposition, the interpolation would be exact, and the error would scarcely exceed one day in 268,500 years. But the reformers of the calendar made use of the Copernican year of 365$1/4$, 5 days. Indeed, therefore, of intercalating 97 days in 100 years, they ought to have added, at proper intervals, 41 days in 169 years, or 90 days in 371 years, or 131 in 540 years, &c.

Recent observations have determined the quantity of the tropical year to be 365$1/4$, 6, 48, 43. Admitting this to be the true quantity of it, the intercalations ought to be made as follows:

\[
\begin{array}{cccccccc}
+ & + & - & + & + & + & + & + \\
1185 & 1133 & 1441 & 2754 & 4607 & 9447 & 5162 & \\
\end{array}
\]

\[
= \frac{267}{365} \times 14715 + \frac{1}{4583} \times 172800
\]

that is, one day ought to be intercalated in the space of 4 years, or rather 4 days in 17 years, or 8 days in 33 years, &c. If 141,581 days were intercalated in 172,800 years, there would be no error. The figures + and - indicate, that the number of intercalary days above which they are placed is too great or too small. Every succeeding number is more accurate than that which goes before. As this method of interpolation is different from that now in use, it is obvious that the Gregorian calendar must be corrected after a certain period of years. The correction, however, will be inconsiderable for many ages, as it will amount only to a day and a half, which is to be suppressed in the space of 500 years.

Calendar, reformed, or corrected, is that which, setting aside all apparatus of golden numbers, epacts, and dominical letters, retrenches 11 days from the calendar, and determines the equinox, with the pashal full moon, and the movable feasts depending thereon, by astronomical computation, according to the Rudolphine tables of Kepler, agreeably to the first council of Nice. The person who projected this plan was Erhard Weigel.

Upon the death of Weigel in 1699, the project was submitted by the diet to the consideration of Sturmius, professor of mathematics at Altdorf; Hambenger, professor at Jenae; and Meyer, professor at Ratibon. In consequence of their report, this calendar was introduced among the Protestant states of Germany, in the year 1705, when 11 days were at once thrown out of the month of February; so that in 1700, February had but 18 days; by this means the corrected style agrees with the Gregorian. This alteration in the form of the year they admitted for a time, in expectation that the real quantity of the tropical year being at length more accurately determined by observation, the Romanists would agree with them on some more convenient intercalation.

Calendar, French or Republican. Soon after the government was changed in France, it was decreed on the 2d of January 1792, that this year should be denominated the fourth of liberty on their coins, and in their acts. After the death of Louis XVI. in 1793, it was determined that this year should be called the first of the republic, and this suggested the idea of a republican calendar. Accordingly, on the 12th of January, 1793, the deputy Romme, president of the committee of public instruction under the convention, applied to the Academy of Sciences for a commission to deliberate on this subject; but M. de la Lande protested against the change of the calendar. He was obliged, however, to acquiesce, and to prepare a new calendar. After the example of the Egyptians, he preferred 12 equal months, with five intercalary days, and he adapted their denominations to the climate of Paris, which Fabre d'Églantine expressed by the following terms, viz. Vendémiaires, or vintage month; Brumaire, or foggy month; Frimaire, or frosty month; Nivose, or snowy month; Pluviôse, or rainy month; Ventôse, or windy month; Germinal, or budding month; Floréal, or flowery month; Prairial, or meadow month; Messidor, or harvest month; Thermidor, or hot month; and Fructidor, or fruit month. The first month begins September 23; the second, October 23; the third, November 22; the fourth, December 23; the fifth, January 21; the sixth, February 20; the seventh, March 22; the
the eight, April 21; the ninth, May 21; the truth, June 20; the eleventh, July 20, and the twelfth, August 19; making in all 360 days. The remaining five days are called the complementary days; of which the first is the 18th of September; the second, the 19th; the third, the 20th; the fourth, the 21st; and the fifth, the 22d of September, being the last day of the French year.

The first decree was issued the 5th of October 1793; and it was followed by another on the 21st of November, or the 4th of Frimaire, in the second year of the republic, settling the commencement and organization of the year, and the names of the days and months. The decree of the national convention comprehends four articles, viz. That the French era should be reckoned from the foundation of the republic, September 22, 1792, of the vulgar era, on the day when the sun arrived at the true autumnal equinox, in his entrance into the sign Libra, at 9° 18' 30" in the morning, according to the observatory at Paris: that the vulgar year should be subsided in all civil concerns: that each year should commence at midnight with the day on which the true autumnal equinox falls, according to the observatory at Paris: and that the first year of the French republic had actually commenced at midnight of the 22d of September, 1792, and terminated at midnight, between the 21st and 22d of September, 1793. The decree for adopting a rule of intercalation, in order to preserve the feasons at the same epochs of the year, comprises the following four articles: viz. that the fourth year of the republican era should be the fifth fastile; that it should receive a fifth complement day; and that it should terminate the first franciate: that the fastile, or leap years, should succeed one another every four years, and mark the end of each franciate: that the four following secular years in succession should be excepted from the fastile article; namely, the fifth, seventh, and third secular years 100, 200, 300, which should be common: and that the fourth should be fastile: and that this should be the case every four centuries until the 40th, which should close with a common year, the year 4000.

In this new calendar or almanac, the months consist of 30 days each, and are divided into three decades. The days of each decade are known by the names of Primi, Secundi, Tertiis, Quartih, Quinti, Sexi, Septim, Octavi, Novem, and Decem. The day, which begins at midnight, is distributed into ten parts, and these are decimally divided and subdivided. To the five supernumerary days in common years, and six in leap years, was applied the absurd appellation of Sans Calendrier, borrowed from a term of reproach (Sans Culotte), which had been originally bestowed on the republican party, on account of the meagre of their rank and fortune; but which the same party afterwards attempted to render honourable and popular; and this appellation also serves to distinguish the leap years.

### TABLE I.

<table>
<thead>
<tr>
<th>Years of the Republic</th>
<th>Gregorian Year</th>
<th>Franciate</th>
<th>Commencement of the French Year</th>
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<td>1802-03</td>
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<td>1841-42</td>
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<td>36</td>
<td>1841</td>
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<td>1842-43</td>
<td>1843</td>
<td>37</td>
<td>1842</td>
</tr>
</tbody>
</table>

b signifies biannual, or leap-year—4 sexaxile, or French leap-year—a common year of 355 days—m morning—a afternoon.

The French decree does not determine the proper rule for fixing the leap-year: the necessity for determining this rule will happen in 1811. The most convenient method appears to be the common one, when after 7 Franciates of 4 years, a Franciate of 5 years occurs: according to this regulation, the 5th and 15th Franciates are of 5 years each. The Bureau des Longitudes will doubtless avert this point with more accuracy.

### TABLE II.
**Calendar.** Persian is founded on the Persian era, called "Yezdegerd," or "Jezdegerd," which derives its name from the last king of the race of Sassanians, or 5th dynasty, that reigned in Persia. Some suppose the ancient Persian era to have been established by Gemshid, one of the Pithodian kings, about 800 B.C. On the day when the sun entered Aries, he is said to have made his public entry into Persepolis, which he had just finished, and to have ordained the era to commence from that time, in honour of the sun, and in commemoration of the building of his capital city. He divided the year into 12 months of 30 days each; to the last of which 5 supplementary days were added. But no attention was bestowed on the odd quarter of a day, till astronomers, in the reign of Yezdegerd, observing that the beginning of the year had moved in a retrograde direction from Aries to Pisces, corrected this error, and appointed one month to be inserted at the end of every 120 years, and the intercalary month of 30 days restored the integrity of the solar year. By this reformation of the calendar a new era was produced, which is still adopted in many parts of Persia. All, however, do not agree in the epoch of its commencement. Some refer the date of it to the beginning of Yezdegerd's reign, which they place on the 16th of June, in the 11th year of the Hegira, A.D. 1032. Of this opinion are Ulugh Begh and Herbelot (Bib. Orient.) Others compute from the time of his defeat by the Arabs at Cadiz, A.D. 636. Some few reckon from his death, A.D. 651 or 625, among whom are Alfaragianus, Scaliger, &c. The best modern chronologists have adopted the first of these opinions, which is most conformable to the testimony of the eastern writers.

In vindication of which it may be observed, that Yezdegerd had lived as a private person, as his father had always done, till the Persians, understanding how just a title he had to the kingdom, set him upon the throne. The Arabs say, this was done with the consent of their caliph, who therefore regarded him as his tributary, reckoning the kingdom of Persia among the rest of his dominions from this time, and considering the subsequent reduction of that country not as a conquest, but as the re-union of that part of his empire which had been severed from it by a rebel. This is plainly the cause why the commencement of this era is and ought to be fixed at the accession of Yezdegerd. The years of this era are Naboffarean; for each year consists of 365 days, or 30 months of 30 days each, with the addition of 5 intercalary days to the month Aban, or to the end of the year.

Besides this form of the year, Persian astronomers use the Gelalean year, so called on account of the title "Gelaleddin," which was conferred on Malekshah, sultan of Khorasm. This great prince, A.D. 1074, assembled the most celebrated astronomers of his time, in order to reform the calendar, which he found imperfect, to ascertain the vernal equinox for astronomical purposes, and for the regulation of their solemn festival "Nuruz," or new-day, and to change the order of the months, under the idea of restoring the ancient mode fixed by Gemshid. The year, as he reformed it, was twofold, civil and astronomical. He fixed the beginning of both on the 14th of March, the feast of the equinox, A.D. 1074, or, according to Zacuti, a Jewish author, A.D. 1079. In the correction of the civil year, besides five intercalary days, in every fourth year he added, six or seven times in succession, a sixth day; after which the intercalation was not to occur more frequently than once in five years. The Persian astronomical year was of the same form, and nearly of the same quantity with the solar tropical year; for it consisted of 365.5, 49.53°. From these frequent reformations of the Persian calendar, there has arisen no small disagreement among different writers with regard to the feasts and

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**TABLE II.** By means of which the first day of each month of the new French Calendar is made to correspond with that of the Common Calendar.

<table>
<thead>
<tr>
<th>Argument from Table I.</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brumaire</td>
<td>22</td>
<td>23</td>
<td>22</td>
<td>23</td>
<td>22</td>
<td>23</td>
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<td>Catin</td>
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<td>24</td>
<td>23</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
</tbody>
</table>

**TABLE III.** By means of which the first day of each month of the common Calendar is made to correspond with that of the French Calendar.

<table>
<thead>
<tr>
<th>Argument from Table I.</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primal</td>
<td>16</td>
<td>14</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Tammuz</td>
<td>20</td>
<td>18</td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

When a Gregorian leap-year occurs, one day must be subtracted from all those days in the year which are marked with asterisks.
and days when several festivals were to be celebrated, which it would be difficult to reconcile. Playfair's Chronology, p. 55. See EPOCH AND YEAR.

Calendar, construction of a, or almanac. See Almanac.

Calendar is also applied to divers other compositions respecting the twelve months of the year.

In this sense, Spencer has given the shepherd's calendar, Evelyn and Miller the gardener's calendar, &c.

Calendar is used for the catalogue, or rati, anciently kept in each church, of the saints, both universal, and those particularly honoured in each church; with their bishops, martyrs, &c. Calendars are not to be confounded with martyrologies, for each church had its peculiar calendar; whereas the martyrologies regarded the whole church in general; containing the martyrs and confessors of all the churches. From all the several calendars were formed one martyrology; so that martyrologies are posterior to calendars. See Martyrology.

Calendar is also extended to an orderly table, or enumeration of persons or things. Lord Bacon wishes for a calendar of doubts. A late writer has given a calendar of the persons who may inherit estates in fee-simple.


Calendar montis, the solar months as they stand in the calendar, viz. January 31 days, &c.

The number of days in each month may be suggested to the memory by the following canon:

"Thirty days hath September,
April, June, and November,
February has twenty-eight alone,
And all the rest have thirty-one."

Calendar, astronomicus, an instrument engraved upon copper-plates printed upon paper, and pasted on board, with a brass slider which carries a hair, and shews by inspection the sun's meridian altitude, right ascension, declination, rising, setting, amplitude, &c. to a greater exactness than our common globes will shew.

Calendar of prisoners, is a list of all their names, with their separate judgments in the margin, which the judge signs, and the execution of which is committed to the respective sheriffs. In the case of a capital felony, the words "hang by the neck" are annexed to the prisoner's name, instead of "ful. per col." for suspendatur per collum, which was the ancient form. Judge Blackstone well observes, that the execution of a man seems to be too important and terrible a fact to depend on a marginal note. Blackst. Com. vol. iv. p. 396.

Calendar-globe, vitrum calendare, a name formerly given by some writers to a thermometer, or graduated tube, whereby to measure the degrees of heat.

Calendar-brothers, frateres calendari, a sort of devout fraternity, composed of ecclesiastics as well as laity; whose chief buisness was to procure masses to be said, and alms distributed, for the souls of such members as were deceased. They were also denominated calendar-brothers, because they usually met on the calendars of each month, though in some places only once a quarter.

CALENDARIO, Philip, in Biography, a celebrated architect and sculptor, flourished at Venice in the time of Martin Falerti, doge of that republic in 1354. He constructed those beautiful porticoes supported by marble columns, which surround the place of St. Mark, above which are seen superb buildings ornamented with bas reliefs and rich paintings. By these works he established both his fame and fortune. Mureri.

CALENDARIUM quintum. The Christians retained much of the ceremony and wantonness of the calendars of January, which for many ages was held a feast, and celebrated by the clergy with great indecencies, under the names quintum kalendariurn, or hypodietonorum, or flitorum, that is, the feast of fools; sometimes also libertas decemviri. The people met masked in the church, and in a ludicrous way proceeded to the election of a mock pope, or bishop, who exercised a jurisdiction over them suitable to the festivity of the occasion: fathers, councils, and popes long laboured to refrain this licence, to little purpose. We find the feast of the calendars in use as low as the close of the fifteenth century. Du Cange.

CALENDER, a machine used, in the manufacturies, for pressing certain stuffs, silks, callicoees, and even linens; to make them smooth, even, and glossy. It is also used for watering, or giving the waves to tabbies and mohairs.

The word is formed from the French calendre, or Spanish calendra, which signify the same; and which have derive farther from the Latin cylindrus; because the whole effect of the machine depends upon a cylinder. Borel derives the name from that of a little bird, of the swallow kind; on account of the agreement between the feathers of the bird, and the impression of the machine.

The calender consists of two large wooden rollers, round which the pieces of stuff are wound: these are put between two large, close, polished planks of wood, or plates of iron, the lower serving as a fixed base, and the upper moveable, by means of a wheel like that of a crane; with a rope, fastened to a spindile, which makes its axis: this upper part is of a prodigious weight, sometimes twenty or thirty thousand pounds. It is the weight of this part, together with its alternate motion, that gives the polish, and makes the waves on the stuffs, by causing the cylinders on which they are put to roll with great force over the lowest board. The rollers are taken off, and put on again, by inclining the machine.

At Paris they have an extraordinary machine of this kind, called the royal calender, made by order of M. Colbert; the lower table or plank of which is made of a block of smooth marble, and the upper lined at bottom with a plate of polished copper.

This is called the great calender; they have also a small one with two tables of polished iron or steel.

There are also calenders without wheels, which are wrought by a horse harnessed to a wooden bar, which turns a large bar placed upright; at the top of which, on a kind of drum, it wound a rope, the two ends of which being fastened to the two extremities of the upper plank of the engine, give it motion. But the horse calender is in less esteem than the wheel kind, as the motion of this latter is more equable and certain.

We read of calendering worlde. To improve linen farther, the drapers get several sorts of their cloths calendered; whereby their threads are made to lie flatter and smoother.

Calender also denotes the workman who manages the machine above described; applying the cloth or stuff underneath, after having first wound it on the rollers.

Calenders is also the name of a sort of dervises spread through Turkey and Persia, whose order is not in general esteem among the Mahometans, as being reputed lefs abominous and licent in morals than some other orders. They derive their name from Calendria, their founder, who went barcheaded,
bareheaded, without a shirt, and with the skin of a wild beast thrown over his shoulders. Before, he wore a kind of apron, the fringes of which were adorned with counterfoil precious stones. In Persia and Arabia these derivatives were called Allah or Abdal, i.e., Perfons consecrated to the service or honour of God. They preach in the marketplaces, and live upon alms. See Deris.

CALENDS, CALENDAR, in the Roman Chronology, the first day of every month.

The word is formed from sabb., I call, or proclaim; because, before the publication of the Roman Fasti, it was one of the offices of the pontifices to watch the appearance of the new moon, and give notice thereof to the Rex Sacrisficus; upon which a sacrifice being offered, the pontiff summoned the people together in the capital, and there, with a loud voice, proclaimed the number of calendae, or the day whereon the moons would be; which he did by repeating this formula, as often as there were days of calendae: Calo Juno Novella. Whence the name calendae were given thereto, from calo, calare. This is the account given by Varro. Plutarch, and after him Gaza, derive the word from clam; Quia luna calendis clam fiat; but this is far fetched. Others derive the appellation hence; that the people being convened on this day, the pontifex called or proclaimed the several feasts or holidays in the month; a custom which continued no longer than the year of Rome 450, when C. Flavius, the curule ædile, ordered the fasti, or calendar, to be set up in public places, that every body might know the difference of times, and the return of the festivals.

The calends were reckoned backwards, or in a retrograde order; thus, e.g. the first of May being the calendae of May; the last, or thirtieth of April, was the primae calendae, or first of the calendae of May; the twenty-ninth of April, the third of the calendae, or before the calends; and so back to the thirteenth, where the idæ commence; which are, likewise, numbered invertedly to the fifth, where the nones begin; which are numbered after the name manner to the first day of the month, which is the calends of April. See Ides and Nones.

The rules of computation by calends are included in the following verses:

"Prima dies mensis cujusque est dicta calendae: Sex Mnaus Nover, October, June, Mars: Quo naut reliquis habet idus quiblibet octo: In die dies religios omnies dicit ecle calendae; Quas retro numerans dices unum ficiente."

To find the day of the calends answering to any day of the month we are in; see how many days there are yet remaining of the month, and that number add two: for example; suppute it the 22d of April; it is then the 10th of the calends of May. For April contains 30 days; and 22 taken from 30, there remains 8; to which 2 being added, the sum is 10.

The reason of adding two is, because the last day of the month is called secundae calendae, the last but one tertio calendae, &c.

The Roman writers themselves are at a loss for the reason of this absurd and whimsical manner of computing the days of the month; yet it is still kept up in the Roman chancery; and by some authors, out of a vain affection of learning, preferred to the common, more natural, and caly manner.

CALENDS, Calendar, are also used in Church-History to denote confrances anciently held by the clergy of each deanery, on the first day of every month, concerning their duty and conduct, especially in what related to the imposition of penance. Du Cange.

CALENDS of January, in Roman Antiquity, was a solemn festival consecrated to Juno and Janus; wherein the Romans offered vows and sacrifices to those deities, and exchanged presents among themselves, as a token of friendship.

It was only a melancholy day to debtors, who were then obliged to pay their interests, &c. Hence Horace calls it trifles calendae. Lib. i. Serm. Sat. 3.

CALENDULAE, in Botany, (according to Martyn, a diminutive from Caltha, the name of the most common species in old authors; Venentan derives it from Calendar, the Latin term for the first day of every month, because it continues long in flower, whence one of its Italian names Fiore d'ogni Mese.) Linn. gen. 990. Schreb. 1359. Willd. 1559. Curt. 991. Jaff. p. 183. Vent. v. 2. p. 545. Marigold.


Gen. Ch. Calys simple, nearly upright, with numerous linear-lanceolate, nearly equal divisions. Cor. radiate: florst of the disk numerous, tubular, semiquinquefoil, the length of the calyx; the ray strap-shaped, very long, three-toothed, hairy at the base, without nerves, with pistils only. Stamens of the disk: filaments five, capillary, very short; anthers the length of the floriets, united in a hollow cylinder. Petals of the ray: germ oblong, fleshy thread-shaped, feckly the length of the stems; stigma obtuse, bifid, straight. Pistil of the ray: germ oblong, three-cornered; thread-shaped; stigma two, oblong, acuminate, reflexed. Pericarp, the permanent calyx converging and depreessed. Seeds in the centre of the disk none; in the circumference, sometimes but rarely solitary, membranous, inerely heart-shaped, compressed; in the ray, solitary, larger, oblong, incurved, triangular, with membranous angles, marked on the outside longitudinally with the figure of a vegetable. Down none. Recep. naked, flat.


Obf. As the seeds in the circumference of the disk are very different in form from those of the ray, Linnaeus was in doubt whether they were not abortive; but Gärtner affirms that both kinds are fertile.

CAL

yellow, erect; in fruit nodding. **Rinus of the seeds semiorbicularitate.** houses. C. marica, Willd. Thunb. "Leaves oblong, rugged with papillary tubercles; the lower ones toothed, upper ones entire; stem thrubpy." Perennial. 27.- **C. monensis, Willd. Thunb.** "Leaves wedge-shaped, fleshy, toothed." Perennial. The last eight are all natives of the Cape of Good Hope.

**Observation and Colour.**—The seeds of the arvensis, func- tii, chelidonia, pluvialis, hybrids, and radicalis, should be sown in the spring, and will afterwards sow themselves without much trouble. The last three should not be transplanted. The graminifolia does not often produce good seeds in Europe; but is easily propagated by slips taken off from the head, in the same manner as is praefided for thrift. They may be planted any time in summer, in pots filled with light loam earth, and plunged in a moderate hot-bed, or placed in the common earth under a melon frame, and occasionally, but not plentifully watered. When they have taken root, they should be transplanted and kept during the summer in the open air, and in a shady situation. In winter they require protection from frost and heat, but do not thrive in artificial heat. The fructicola is also easily propagated by cuttings in light poor earth, and must be treated in the same manner as the graminifolia.

**Calendula,** in Carkoffia, a species of Motacilla that inhabits North America, the *Ruby crowned" corn of Lithuan. 

*Calendula.* Litt., and calendula penivulae of Buffon. The colour is greenish-yellow; crowned with a ruby, (sometimes deep yellow) line; abdomen and wings beneath yellowish. Gmel. &c.

**This is a small bird. The female has no ruby line on the
crown, but has a scarlet lindle mold commonly on the nape,
which is not observable in the male.

**Calendula,** in Zoolog, according to Gmelin, a fort of **Hydra, called by Hughes in his "Natural History of Barbados," the animal flower. Authors are divided in opinion as to the genus to which this animal-flower ought to be referred. Gmelin expresses a doubt of its being truly of the hydra kind, although he places it in that genus. Ellis con-

**This we have, however, no hesitation in believing it to be
either of the genus hydra, nor actinia, but a species of
tubularia. This we must presume from its analogy to the
tubularia magnifica, and some other accurately defined spe-
cies of that genus. The original figure of this animal is that which appears in the "Natural History of Barbados" by Hughes. Ellis and Solander have a figure of it in their work on zoophytes, but which is copied from the above mentioned publication, as is also the description that accom-

**We must therefore receive to the account
given of it by Hughes, as being the best to be obtained at present of the hydra animal." This writer describes it as having the appearance of fine radiant flowers, of a pale yellow, or bright brown colour, slightly tinged with green; each surrounded by a circular border of thick-flet petals about the size of, and much resembling, those of a single garden marigold; except that the whole of this feaming flower is narrower at the discus, or fettong out of the centre from which he calls the flower, with a quick spontaneous motion from one side to the other of the circular border of leaves (petals); and these in reality, he says, were so many arms or feelers, closing together in imitation of a forceps, as if they had

**hemmed in their prey, which the yellow border soon sur-
rrounded, and closed to secure. He attempted to pluck
one of these from the rock to which they were affixed, but
never could effect his design, for as soon as his fingers came
within two or three inches of it, the animal would immedi-
ately contract its border of tentacula, and shrouck back into
the hole of the rock; but if left undisturbed for about four
minutes, it would come gradually into fight, expanding,
though at first very cautiously, its petals or tentacula, till it
would at length appear again as before, like a flower in full
bloom. As often as his hand came within a certain distance
of it, the animal would again recoil from his approach in
the same manner. He also tried the same experiment by
attempting to touch it with his cane, and a small flounder
red, but the effect produced was the fame.

**Ellis calls this the sea marigold, from its near-resemblance,
when the tentacula are expanded, to the flower of the com-
mon marigold. It may be specifically defined in the words of
Gmelin: Item somewhat turbinate: diff. surrounded by petal-shaped tentacula, or rays.

**CALENS, in Entomology, a Siberian species of Chry-
sis of a large size, described by Fabricius. The prevailing
colour is glossy blue; abdomen golden; tail blue and armed
with four teeth. Off. The legs and tip of the antennae are
fusous.

**CALENS, a species of Cimex found in India. The head,
thorax, and wing-cases are black, with a fulvous feuel.

Gronovius, &c.

**CALENTES, in Logie, a sort of fylliforms in the fourth,
commonly called Calenditad, figure, wherein the major pro-
position is universal and affirmative; and the second or mi-
tor, as well as the conclusion, universal and negative. This
is intimated by the letters it is composed of, where the A
figures an universal affirmative, and the two E's as many
universal negatives. E. gr.

**CA Every affility in this world is only for a time,
LEN No affility, which is only for a time, ought to dis-
urb us.

**TES No affility ought to disturb us, which happens in
this world.**

*The Aristotelians not allowing the fourth figure of syllo-
gisms, turned this word into celantes, and make it only
an indirect mood of the first figure.*

**CALENTUS, Elisius, in Biography, an ingenius
writer both in prose and verse, was born in Apulia, and be-

**came preceptor to prince Frederick, the son of Ferdinand I. king of Naples, whom he endeavoured to insinuate
with sentiments of justice and humanity, congenial to his own.
He was an enemy to capital punishments, and propounded va-
rious subltiles for them in different cafes. He was much
addicted to agriculture, and practiced it with skill. Al-
though his circumstances were narrow, he lived on terms of
intimate friendship with the most eminent felicors of his time,
and was a member of the Neapolitan academy. He was
the author of several works, both in prose and verse,
which were printed in 1593, about the time of his death;
the principal of these was his poem on the "Battle of the
Frongs and Mice," imitated from Homer. He declined
writing the history of the war carried on by Charles the
Bold against the Swis, alleging, that it was not safe to
speak ill of princes, and that an honest man ought not to
publish falsehoods.

**CALENTO, in Ancient Geography, a town of Spain,
on the other side of the Ebrus. Pliny says, that bricks
were made in this place of an earth resembling pumice-stone,
which would not sink in water.**
It was celebrated for its wine, called "Calenum." In its ruins are discovered a theatre and amphitheatre.

**CALIS, in Geography.** See CAISSI.

**CALIPE, or CALITES, in Ancient Geography.** A people placed by Ctesias, and also by Strabo, in Hespise Gaul; but Augustus comprees them in Celtic Gaul, or Galia Lyonnaquis; their chief town was "Julobona." M. de Anville conjectured that they probably occupied the dreece of "Caes." The promonitory "Caletonum," was situated in Lyonnais Secunda, at the mouth of the Seine; now called "Cape Caux."

**CALIPE, in Geography.** See CALITAE.

**CALIPE, in Geography.** See CALIPPE.

**CALIPE, in Geography.** See CALILAE.

**CALIPPE, in Geography.** See CALILAE.
these prepared kinds of food is given night and morning for a few weeks after the calves are put on that diet, but afterwards, only once a day, till they are three months old or more, and become perfectly strong.

The calves in Gloucestershire are not allowed to suck above two or three days; they are then fed on skimmed milk, which is previously heated over the fire. When they arrive at such an age as to be able to eat a little, they are allowed split beans or oats, and cut hay, water being mixed with the milk at the time of giving it.

And the method practised in Suffolk differs materially from any of these. It is common, in that district, to allow the calves either to suck for ten or twelve weeks, or to wean them at the end of three or four, and to give them a liberal allowance of skimmed milk for six or eight weeks longer when necessary. The Suffolk farmers adopt the practice of letting the calves suck the cows a month, six weeks, or more, coarse pollard and oats being then given in mixture with skimmed milk and water: some nice green hay being constantly placed before them, till the period of their being turned out into the pastures. In this method, carrots would probably supply the place of the oats, and greatly lessen the expense.

The method pursued by the farmers in Scotland for rearing calves seems well adapted to the purpose: they are two. The first is, by giving them a pailful, containing about a gallon, of milk, warm from the teat of the cow, morning and evening, for eight or ten weeks. The second, which is certainly the most agreeable to nature, and therefore to be preferred to any other that can be adopted, is, to allow the calf to suck its dam, as is sometimes done in the county of Suffolk, and some other districts, as in some parts of Lancashire.

The Norfolk husbandmen permit their early calves to suck twice in the day for about a fortnight, and afterwards to have the pail in the same manner for an equal length of time; then once a day for a month or more, according to circumstances; tumps, cut hay, &c. being placed in the mangers before them, at the time.

Where it is the custom to rear calves with skim-milk, it should always be boiled, and suffered to stand until it cools to the temperature of that first given by the cow, or in a trilling degree more warm, and in that image given to the calf. Milk is frequently given to calves when warmed only; but that method will not succeed so well as boiling it. If the milk be given over-cool, it will cause the calf to fret or purge. When this is the case, put two or three spoonsful of rennet in the milk, and it will soon stop the looseness. If, on the contrary, the calf is bound, bacon-broth is a very good and safe thing to put into the milk. One gallon, or rather more, of milk per day will keep a calf well till it be thirteen weeks old. A calf may then be supported without milk, by giving it hay, and a little wheat bran, once a day, with about a pint of oats. The oats will be found of great service, as soon as the calf is capable of eating them, in promoting its growth. The bran and oats should be given about mid-day: the milk in equal portions, at eight o'clock in the morning, and four in the afternoon. But whatever hours are chosen to set apart for feeding the calf, it is best to adhere to the particular times, as regularity is of more consequence than is generally suppos’d. If the calf goes but an hour or two beyond its usual time of feeding, it will find itself uneasy, and pine for food.

It is always to be considered, that calves, reared in this manner, are to be enticed to eat hay, or some other familiar material, as early as possible; and the blunt way of doing this, is, to give them the sweetest hay in your possession, and but little at a time. Turnips or potatoes are very good food, as soon as they can eat them; and they are best cut small, and mixed with the hay, oats, bran, and such articles, at the time of their being given.

It may be observed, that it is not absolutely necessary to give milk to calves after they are one month old; and to wean them gradually, two quarts of milk, with the addition of linseed boiled in water to make a gruel, and given together, will answer the purpose, until, by diminishing the milk gradually, the calf will soon do entirely without. Hay- tea will answer the purpose, with the like addition of two quarts of milk, but is not so nutritious as linseed. It is a good method of making this, to put such a proportion of hay as will be necessary into a tub, then to pour on a sufficient quantity of boiling water, covering up the vessel, and letting the water remain long enough to extract the virtues of the hay. When bacon or pork is boiled, it is also a good way to preserve the liquor or broth, and mix it with milk for the calves.

In summer, calves may sometimes be reared on whey only. But when reared in winter, they must be fed with hay; and clover-hay is probably the best of any for this use. Calves may also be raised with porridge of different kinds, without any mixture of milk at all.

It has been suggested to be sometimes a good convenient plan, to bring up calves under a sort of foster mother; an old cow, with a tolerable flock of milk, will fatten two calves, or more, either turned off with her, or at home, keeping them in good condition, until they are old enough to shift for themselves: they ought to be suck the first of their mother’s milk, for two or three days, although many are weaned without ever being suffered to suck at all. Calves, whether rearing or fattening, should always suck before milking, the cow being milked afterwards, as the first and thinnest of the milk is sufficiently rich for them. Old milk often scours very young calves; but the effect generally goes off without any ill consequence. Skimmed milk and second flour are sometimes made use of. The large, short-horned breed of calves mostly confine daily, at three meals, three quarters of a pound of flour each, boiled up in skimmed milk or other liquid.

The proper degree of warmth for the skimmed milk, on which calves are weaned, is a little above that fresh from the cow.

In the Rural Economy of Norfolk, it is remarked, by Mr. Marshall, that some farmers bring up all the year round, rearing every calf they have dropped. Others rear in winter only, fattening their fummer calves for the pea-markets; or at a distance from them for the butcher. Norfolk farmers, in general, begin early in winter to rear their calves, some far earlier than Michaelmas; in common, if their cows come in before Christmas, not only as being fully aware of the advantage of rearing early, but in order that they may rear as many of their own calves as possible, through calves being always hazardous, and sometimes scarce. No dilution is made as to sex; males and females are equally objects of rearing, and are both occasionally subject to castration, it being a prevailing custom to fay all heifers intended to be fattet at three years old, but such as are intended to be further at two years old are, it is believed, prettily generally left "open," as are, of course, such as are intended for the dairy. There are two reasons for this practice; they are prevented from taking the bull too early, and thereby frustrating the main intention; and by this precaution may be more quiet, and are kept from roving at the time of fattening.
This may be one reason why spayed heifers are thought to fatten more kindly at three years old, and to be better fleshed than open heifers. The method of treatment depends, in some measure, on the time of rearing; the winter calves require more milk than the later-dropped ones.

"Here the general treatment of a calf dropt at Christmas may be said to be this: anke twice a day the first fortnight, has the pail twice a day for the next month or six weeks, and once a day for a month or six weeks longer, with hay in a rack and turnips in a manger, and sometimes with oats and beans among the turnips, which last, after a calf has taken freely to them, serve as both meat and drink. In this confits the chief peculiarity of the Norfolk method of rearing calves, which may be said to be with milk and turnips; the last a species of food, which, in every other part of the kingdom is, it is believed, entirely neglected or unthought of. As soon as the weather gets warm enough, the calves are turned out in the day amongst the fattening bullocks, or on to a patch of turnips, or upon a piece of wheat, or a forward grass-piece, and houghed again at night, until the days growing long and the nights warm, and the clover and darnel have risen to a full bite, when they are turned out altogether, and continue to have the first bite of every thing which is good and palatable to them throughout the summer. This may be called the general treatment of calves dropt at Christmas; but the management of no two farmers is exactly the same."

Calves, weaning of: The most suitable season for this busines is the early part of the spring, as such calves as are weaned at a late period seldom attain any great size. The heft means of accomplishing this is by gradually taking them from the cow, and afterwards diminishing the quantity and quality of the milk, or other liquid with which they are fed, until they become capable of being supported on grass alone, or with some sort of cut food. The method of management in these cases is thus stated by the author of the "Synopsis of Husbandry": "having a cow fitted to the purpose which drops a calf, let it be suckled in the usual mode, till it hath completed the third week of its age; when, instead of turning it to the cow, it is to be suckled by thrusting its head into a pail of new milk, and the finger of the person who directs the busines is to supply the place of a teat. At first the calf may be rather awkward at sucking the finger, but this will soon become familiar, and after a while a lock of hay may be substituted for the teat; and as the calf advances in age it will suck the milk out of the pail without any assistance. The milk should at first be given, as observed before, free of adulteration; but, at the end of the first month, a little milk pottage may be added to each serving. This method should be continued till the calf is twelve or fourteen weeks old, lowering the milk pottage by degrees, till at length it will be brought to simple water only. At the season when the calf is thus weaned from the teat, it ought to be turned abroad in the day-time into a small close or orchard near the yard, where there is a good bite of grass, which may be expected at the time of the year when the weaning calves are of this age; and as there will generally be more than one calf weaned in a feaon, they will each be company for the other, and become in a short time reconciled to their situation. It is to be observed, that this pature should be at some distance from that wherento the dams are turned, and that there be neither ponds nor ditches, nor any annoyance which might endanger the lives of these youthful animals; and in order to habituate them—fill more to their pature, the milk-pottage should be carried clean to them at each of their feeding hours. For the first month or six weeks the calves ought every night to be brought out of the meadow and lodged in the pens; but, after this time, they may be left in the pasture as well in the night season as in the day, and at this time their food may be lowered by degrees, till, as was before observed, it be at length reduced to simple water only, for when the calves get to the age of twelve or fourteen weeks, they will no longer require the aid of this sustenance, but will be able to satisfy their appetites by grafs. Care, however, must be taken throughout the summer, that they be frequently shifted from one pature to another, in order that they may be kept up in good flesh, and enabled to grow away with the utmost celerity. At Michaelmas, or soon after, the calves should be taken into the yard; and if they were allowed the indulgence of a small close to themselves, it would be still better. And here their tallow must be gratified with the bolt and sweet salt hay that can be procured, with an outlet on a dry pasture, where in fine open weather they may be suffered to enjoy themselves; and it would redound greatly to their welfare, if, on the approach of winter, a fixed was to be erected for them to repose in during the night, and for shelter in tempestuous days. So essential are warmth and good living to young animals of every denomination, that the care which has been taken of them in their early days will be manifest in every part of their future growth. Nor is there any flock which will pay better for this cautious management in their youth than those of the cow kind: for if they are flitted in their feed, or carelessly attended whilst in their growing stature, they will never arrive to that fize which they would otherwise have done, and consequently the loss will be perpetually felt by the farmer who attempts to raise milch kine of his own breed, without giving them a due attendance in the first year. When the calves have attained their first year, they are called foals, or yearlings; and though at this time they may be able to mix with the herd, yet he thinks it would be most prudent, if not attended with too great an inconvenience, to suffer them to remain in a pature by themselves. But if this cannot be done, let them be turned out with the dry flock, and not permitted to run with the cows, as this might probably be the occasion of their taking bull; a measure which should at this time be cautiously guarded against, as such buds which propagate at this early age will receive a check in their growth on this account; and if, during the succeeding winter, they were to be managed as before directed, he is of opinion that their future growth would be found to pay ample interest for the fodder that is now given them; only this is to be observed, that as their stregnth is now considerably augmented, a less valuable fodder may suffice, and good pea-straw may well supply the place of hay. Such farmers who have low rusty meadows, where there is frequently a length of trill in the winter, may in this second year turn the calves into them, and here they will meet with plenty of nourishing food, whilst the weather is fair and open. At two years old the heifer may be suffered to take bull; but it would in his opinion be still better for the cow, and more to the interest of the farmer, if he were to wait a year longer ere the busines be completed."

From the great scarcity of milk, various sublittitates have been proposed for the early periods of weaning, some of which seem well calculated for the use they are designed. The method proposed by the duke of Northumberland is to take one gallon of skimmed milk, and to about a pint of it add half an ounce of common treacle, stirring it until it is well mixed; then to take one ounce of linseed-oil cake, finely pulverized, and with the hand let it fall gradually in very small quantities into the milk, stirring it in the mean time with a spoon or ladle, until it be thoroughly incorpo-rated; then let the mixture be put into the other part of the milk,
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...it is first taken from the cow, and in that state it is fit for use. The quantity of oil-cake powder may, from time to time, be increased, as occasion may require, and as the calves become accustomed to the flavour of it. But Mr. Crook's method is to make a jelly of one quart of milk, boiled ten minutes in six quarts of water, which jelly is afterwards mixed with a small quantity of the bell hay-tea; on this he rears many calves without milk.

Mr. Donaldson observes, that calves when dropped during the grape-feason should be put into some small home-close of sweet rich pasture, after they are eight or ten days old, not only for the sake of exercise, but also that they may the sooner take to the eating of grapes. When they happen to be dropped during winter, or before the return of the grape-feason, a little short of hay, straw, or fedl corn, should be laid in the trough or stall before them. By means of inlet made into a jelly by boiling in water, calves have been reared without any milk at all, in the trials of Mr. Crook. The author of Practical Agriculture suggests that potato meal has been found to be useful in this intention, "as it mixes well with milk, water, or weak broth, and is highly nutritious."

Milk calves, that are intended to be kept should contently be castrated or cut at an early period, as in the full week or fortnight, the danger being considerably less when done early.

CALVES, falling of. In this practice the produce of the cow can in many situations be brought to great advantage; as in the vicinity of large towns. The method most commonly employed in fattening calves is to allow them to fatten; as by this method the object is probably not only sooner, but more effectually attained than by any other means. The period which is necessary for fattening calves must be different, according to circumstances, but it is generally from seven to nine weeks; however, in the dairy districts, where milk is considered a valuable article, scarcely half that time is allowed. There is another method, which is to give them the milk to drink; and when that is done, it is given them morning and evening warm from the cow, and the quantity increased according to their age and strength. In whatever way they may be managed, they should be kept in pens in a close well aired house, and well littered.

The author of the Synopsis of Husbandry observes, "that as it is necessary that the calves should lie always quiet, in order that they may indulge in sleep at those times when they are not employed in sucking; it seems proper that the cow-house should be situated in the most retired part of the yard, and that the pens should be kept as dark as possible. But notwithstanding this caution, the calves should by no means be suffered to lie too hot in the summer time, which would be apt to induce a sickness amongst them. To admit, therefore, an occasional draught of fresh air, let a window be cut in each pen, with shutters adapted to the same, and let these windows be opened whenever the closeness of the atmosphere indicates it to be necessary. In the summer season they should rarely, if ever, be closely shut, and when it is required, the stream of air may be increased by opening the cow-house door at the opposite end of the building. Each calf should have a collar round his neck, to direct him in his sucking, but should never be fastened up in the pen. It is necessary that the pens be constantly well littered with the cleanest straw, a proportion of which should be thrown in to them every day; cleanfleas being a most offensive article in the fattening of every animal, and not more necessary to airy than the calf, which, but for this precaution, would in a short time demonstrate the ill effects of lying on his accu-
mulated dung, which of all other animals is the most offensive, and of a quality highly feptic. Still as the calves are veal'd, they are to be taken into the pens, and fedded on their own dams, which at first will yield a far greater quantity of milk than is necessary for their offspring, so that another calf may be fedded thereon; or the cow may be milk'd, and the cream be reserved for butter, or applied to any other use that the owner may think proper. As the calf increases in size it will require a larger quantity of milk; but whilst they are young, one good cow will yield a noble supply for two calves; and when the produce is demanded for one calf, another new milk cow should be provided, and these new cows will abundantly supply the three calves with milk till the oldest is fit for the butcher; after which, if necessary, a fresh suckler may be brought in, and the business be carried on progressively by keeping the house constantly supplied with calves, so that the whole milk may be sucked as the different branches of the fattened calf and the dairy cannot be so conveniently united."

"For many of the southern parts of the kingdom, Smithfield market is the most convenient place to apply for sucklers, so as to be on a certainty of procuring them, this being the general receptacle where the milk-men vend their calves; and these having been bred from the larger Staffordshire or Holderness cows, do generally turn out to good account for the suckler, such large bony calves, when fattened, arising to a weight much more considerable than the ordinary produce of the country dairy-men; and as to the superior quality of milk required in fattening the larger breed of calves, this is amply recompensed by the greater increase of weight. The only hazard attending this Smithfield bargain is, the accident which may happen to the creature on the road, if the drift has been of any length; for, besides the cow-men above-mentioned, many sucklers are sent to this market from the vale of AYLESBURY, and these sometimes meet with accidents, either from the lengthened journey, or want of milk. From the former, the quiet of the pens generally recovers them, and the ill consequences of inanition may be obviated by feeding the creature to a short allowance for a few meals, till the caustic is removed. With these precautions, it will, he believes, very rarely be found that any fatal consequences succeed either of these evils. However it sometimes happens that, in spite of all our care, the suckler dies in consequence of imprudent management in the vendor; but as these accidents are not frequent, they ought not to deter the farmer from replenishing his pen by the London markets, where his vicinity to the metropolis will allow of the practice."

"Young calves," he says, "when permitted to suck their fill, are often seized with a lax or searming. To prevent which, the calves for the first fortnight or three weeks may be fed twice in their allowance; at the same time due regard should be taken that they do not pine or decrease in flesh for want of milk. But after this age, they should be allowed to suck as long as they choose, and every means ought to be made use of to increase their appetite, and render them more eager after their food. Chalk may be given for this purpose, as well as for giving to the flesh a delicate whitenss. Salt sprinkled in the troughs will likewise act as a stimulus to the appetite; besides which, it is a common practice with some people to cram their calves with balls compounded of flour, pounded chalk, and milk, with the addition of a small quantity of common gin. Of these they give two, about the size of a walnut, once a day, or oftener, to each calf. These balls being very nutritious, in some degree, supply the place of milk, and at the same time the spirituous mixture operates on the creature as a soporific;"
risie; and thus, by compounding them to sleep, increases their disposition to fatten. But where milk can be had in sufficient abundance, it is never worth while to have recourse to these fatitious aids. When the demands of the calf, however, are beyond the ability of the cow, these balls come reasonably to their relief. In order that the calves may be provided with sufficient stores of milk, the palliates should still be changed, whenever the cows are found to be deficient in this particular; and in the winter time, such food as is of an incident nature, as grains, turnips, &c. should be always at hand to supply the want of grass; and these, with a due allowance of the sweeted hay, should be their constant aliment during the time that the cows are confined to the yard.

“The prices of suckling calves vary according to the goodness of the young animal, and the time of year wherein the purchase is made. In general, sucklers fetch the highest price in summer, when veal sells the cheapest; and the reason of this arises from the smaller number to be met with at that time than in the spring. A good suckler in London can seldom be bought for less than 30s., and is often sold for 32s. or 33s. The butts of suckling was formerly reckoned to turn out to good advantage, when each calf throughout its fattening brought a profit to the farmer of three shillings a week; but now (1799) so considerably have provisions of every kind been advanced in price within these few years, the profit on the article of suckling is much greater.

When calves are slaughtered at fix weeks or two months old, the veal is seldom of a good colour; neither has the flesh of these young calves a taste equal to that where the animal has been suffered to live a few weeks longer. To attain both the ends of colour and flavour it is necessary that the calves should be maintained with plenty of milk, and regulated under such management as before directed, till they arrive to the age of eight or ten weeks, according to the season of the year, the more or less kindly rate of the calf, the particular demand of the markets, or other eventual circumstances. In the summer season, it may be proper to dispose of them at an earlier period then in the winter; not only on account of their growing away with greater celerity in warm weather, but likewise because of the increased demand for small veal, which is then most saleable. During the last three or four weeks, blood should frequently be drawn from the calf, which will be a likely means towards rendering the veal of a colour delicately white; a circumstance so much attended to by the butcher, that he will commonly depreciate such calves, which from the appearance of their eyes are likely to die black, as they term it, though in other respects not to be despised.

Such calves as are suckled on their own dams will, generally speaking, fatten in a shorter time than those which are afterwards brought to fatten to supply their places. The first obvious reason for this difference in their favour is their not having been removed from the places where they were first dropped, and having always continued to suck the milk of their parent animal, which must in all reason be suppos’d of a more nutritious quality to them than that of any other cow. Secondly, the cow having so lately calved, the aliment nourishes and fattens in a higher degree than when the creature becomes stale milked. Cow calves are offered to fatten more kindly than the male or bull calves; and these last are much more coarsely grained, and their flesh less delicate in taste than the former. Calves of the largest size are fattened in Essex, where the butts of suckling seems to be better understood, and more properly conducted than in any other county, and where the farmer keeps the calves to a greater age than in any other part of the kingdom.”

Mr. Marshall is clearly of opinion, that “to suckle calves in general after they are ten weeks old is bad management; for his account in this respect is uniform—those of nine or ten having paid as much a week as those of twelve or thirteen, and although a calf of six weeks old may suck nearly as much milk as a calf of twelve weeks old, yet the first month or five weeks the quantity is considerably less, and this advantage of their intance is doubly as valuable as nine as it is to twelve weeks.”

In some districts, barley-meal, in some boiled into a kind of jelly, and such-like articles, are given to calves in the course of fattening; but the methods above described are greatly superior, although it must be allowed that they may sometimes be considerably more expensive.

It is of the greatest importance in this practice to have good breeds of cows, to keep them constantly well fed, and the suckling houses airy, spacious, and perfectly clean from all faults of filth.

Calf-pens, a place formed for the purpose of receiving calves for the practice of fattening them.

In muft places it is the custom to have the calf pens annexed to the cow-houses. The only reason, Mr. Beaton observes, in his useful paper in the communications to the Board of Agriculture, “that he can allay why calf-pens should be within the cow-houses is, that it saves a little trouble to the dairy-maid, by having a shorter distance to carry the milk. In general, however, it is a plan not to be recommended, as every person who has had any experience among cows must know how naturally and how forcibly a new calved cow expresses her attachment to her calf; with what care and anxiety, if permitted, she licks it all over, and uses every exertion to protect it from injury; how the tender calf clings to its affectionate mother, as if sensible that to her alone it can trust for protection; and yet the poor helpless creature (says he) is dragged away, and placed perhaps within its mother’s view, or at least within her hearing, as if on purpose to augment the pain of her sufferings. Its delightful cries keep alive the pangs of the unhappy cow; the struggles to break the chain that binds her fast, and seems reliefs and uneasy whenever approached. In such a state of agitation it is impossible she can either feed well, or give that quantity and quality of milk she would otherwise furnish. Where there are many cows kept, and perhaps several of them lately calved, a single calf may keep them all in this rickets state: to remedy which, the beet way (says he) is to have the calves at fuch a distance, or at least to thicken a wall betwixt them, that the cows cannot hear their cries. The cow will then soon forget her calf, and will both feed and milk the better for it; therefore they should be as near as conveniently may be, without being liable to the above objections.

“To be dry and warm is of the greatest consequence in the rearing of calves, as is evident from what has been already advanced on the subject. Some think it necessary to accustom a calf to be bound with a halter from the hour of its being calved; others again turn them quite loose into the pen, and allow them to range and run about as much as they please. Which of these is the best method is here of little consequence. The principal thing to be observed in the construction of calf-pens is the laying of the floor, which should be made of laths or planks, about two inches broad, laid at the distance of an inch from each other upon joists, so as to make the floor above one, two, or three feet from the ground, as the situation will admit. This not only keeps them quite dry, by allowing all the moisture to
pals immediately away. It has the advantage of admitting fresh air below the bed, and thereby preventing that whole forest disagreeable smell too often found among calves; for, to be understood, that this place below the door should frequently be cleaned, as well as the floor itself, whenever it becomes wet or dirty; but it is not right to allow the litter to increase to a great thickness, otherwise the moisture will not so easily pass through. Calf pens are, however, too often made without this sparry floor, and the fresh litter always laid on the old, till the calves are removed, which is a slovenly practice, and not by any means to be recommended.

Stalls, or divisions, are but seldom made in calf-pens: at the same time it would certainly be much better to keep the calves separate from each other; by which means they will be more easily fed, and less liable to accidents. Partitions, about three feet high, of thin deal nailed on small posts, might be so contrived as to be movable at pleasure, to increase or diminish the stall if necessary, according to the age and size of the calf. This may be done as represented in the plate on calf-pens, fig. 1, which is the ground-plan of a double calf-pen for ten calves; a is the door; b the passage between the pens; ccc, &c. are the pens, showing the disposition of the partitions; ddd are four stalls, in which are several holes, as shown on the plan, for receiving iron pins, at the bottom of the partitions, to keep them in their place; e is a window or door, besides which there should be some other windows or air-holes as high up as possible. If it be thought unnecessary to make the partitions, there might be a small round trough, in a circular frame, fixed in the corner of each pen, as at f, for holding the milk, and a door in the next adjoining corner. A small flight back for holding a little hay, placed at the upper part of the pen, might also be useful. The troughs should be round, that the calves may not hurt themselves upon them, which they might probably do on the angles if they were square. Fig. 2, is a section of these pens, in which ss flew the position of the racks. The advantages of this kind of calf-pens are, that the calves are all kept separate in a small compass, and cannot hurt each other, as the stronger ones sometimes do the weaker, when confined promiscuously; and their food may be much more easily and equally distributed when they are not crowded.

If a great number of calves are feeding, as thirty or forty, or more, it might be so contrived in such pens, by pipes communicating with the troughs, that one person might give all the calves their milk at the same instant of time; and that any given quantity of milk, and no more, can go into each trough; but as this method would probably be but rarely required by the farmer, it is unnecessary, in a general point of view, to enter into an explanation of it.

In Gloucestershire, Mr. Marshall says, "the calf-pens are of an admirable construction; extremely simple, yet singularly well adapted to that intention. Young calves, fattening calves more especially, require to be kept narrowly confined; quietness is, in a degree, essential to their thriving. A loose pen, or a long halter, gives freedom to their natural fears, and a looie to their playfulness. Cleanliness, and a due degree of warmth, are likewise requisite in the right management of calves. A pen which holds seven, or occasionally eight calves, is of the following description:—The house, or room, in which it is placed, measures twelve feet by eight; four feet of its width are occupied by the flage, and one foot by a trough placed in its front; leaving three feet as a gangway, into the middle of which the door opens. The floor of the flage is formed of laths, about two inches square, lying lengthways of the flage, and one inch thick. The front fence is made of flages, an inch and a half in diameter, nine inches from middle to middle, and three feet high: entered at the bottom into the front bearer of the floor (from which croses joists pass into the back wall), and itched at the top by a rail; which, as well as the bottom piece, is entered at each end into the end wall. The holes in the upper rail are wide enough to permit the flages to be lifted up and taken out, to give admittance to the calves; one of which is fastened to every second flage, by means of two rings of iron joined by a swivel; one ring playing upon the flage, the other receiving a broad leather collar, buckled round the neck of the calf. The trough is for barley-meal, chalk, &c. and to ret the pails on. Two calves drink out of one pail, putting their heads through between the flages. The height of the floor of the flage, from the floor of the room, is about one foot. It is thought to be wrong to hang it higher, lest, by the wind drawing under it, the calves should be too cold in severe weather. This, however, might be easily prevented by litter, or long strawy dung thrust beneath it."

It is observable, that these flages are fit only for calves which are fed with the pail, not for calves which suck the cows.

Calf-flage, in Rural Economy, a term employed in some districts to signify the name as pen, probably from the floor being somewhat raised.

Calf-kins, in the leather manufacture, are prepared and dried by the tanners, skinners, and curriers, who sell them for the use of the shoe-makers, faders, bookbinders, and other artificers, who employ them in their several manufactures.

Calfskin tressed in sumach, denotes the skin of this animal curried black on the hair side, and dyed of an orange colour on the flesh side by means of sumach, chiefly used in the making of belts. The English calf-skin is much valued abroad, and the commerce thereof very considerable in France and other countries; where divers attempts have been made to imitate it, but hitherin in vain. What is likely to baffle all endeavours for imitating the English calf in France is, the smallness and weakness of the calves about Paris; which, at fifteen days old, are not so big as the English ones when they come into the world.

Calf, Golden, in Scripture History. See Golden Calf.
Calf, Sea, in Zoology. See Phoca Vitulina, and Sea-Calf.

Calf also denotes the young of the whale.

Calf, among Sportsmen, is used for a male hart or hind of the first year.

Calf-shot, in Botany. See Antirrhinum Orontium.

Calfat, in Ornithology, a species of Emberiza, the red-eyed bunting of Latham, a bird that inhabits the isle of France. This is smaller than the common sparrow; colour hoary; beak, throat, and margin of the tail, black; bill, legs, and orbits rosy. Gmel. &c. Obs. This is Le Calfat of Buffon.

CALHETA, in Geography, a small town of Madeira, in the district of Funchal.
CALI. See KALI.
CALI, in Geography, a town of South America, in a department of the name, in the province of Quito, and government of Popayan, built by Sebastian de Belalcazar. N. lat. 3° 15'. W. long. 73° 16'.

CALLACH-HEAD, a cape of Scotland, on the north-west coast of the island of Mull.

CAlIAYVARI, Luca, in Biography, a painter, was born at Udine, in Italy, in 1665, and acquired his skill by studying
studying and copying the works of eminent masters. His
taken subjects were eas-ports and landscapes, especially
views about Rome and Venice, which he described and ex-
cuted with strong simplicity, and elegance. His volume of
perspective views of Venice, toned with aqua-fortis, evince
his taste and abilities. He died in 1715. Wilkinson.

CALIBER, or CALLIPER, in a general sense, denotes the
extent of any round thing in thickness, or diameter.

In which sense we say, a column is of the fame calliper as
another, when they are both of the same diameter.

CALIBER more particularly denotes the bore, or width of
a piece of ordnance, or other firearms; or the diameter of
the mouth thereof, or the ball it carries.

The caliber is the rule by which all the parts of a cannon,
or mortar, as well as of its carriages, are proportioned.

CALIPHERS, a sort of compasses made with arched
legs, to take the diameter of convex or concave bodies.

Calliper-compasses are chiefly used by gunners, for taking
the diameters of the several parts of a piece of ordnance, or
of bombs, bullets, &c. Their legs are therefore circular,
and move on an arch of brass, wherein are marked the
inches and half-inches; to show how far the points of the
compasses are opened atender.

Some are also made for taking the diameter of the bore of
a gun or mortar.

The gunners also sometimes use calibers to embrace the
two heads of any cales, in order to find its length.

The caliper, used by carpenters and joiners, is a piece of
board notched triangular-wise in the middle, for the taking
of measure.

CALIBER, CALIBER-rule, or Gunner's CALLIPER, is an
instrument, wherein a right line is so divided, as that the
first part being equal to the diameter of an iron or leaden
ball of one pound weight, the other parts are to the first as
the diameters of balls of two, three, four, &c. pounds, are
to the diameter of a ball of one pound.

The calibers are tied by engineers, from the weight of the ball
given to determine its diameter, or calliper; or vice versa.

The gunner's callipers consist of two thin plates of brass
joined by a rivet, so as to move quite round each other; its
length from the centre of the joint is between six inches and
a foot, and its breadth from one to two inches; that of the
most convenient size is about nine inches long. Many
feet, tables, and proportions, &c. may be introduced on
this instrument; but none are essential to it, except those
for taking the caliper of shot and cannon, and for meas-
uring the magnitude of fallant and entering angles. The
most complete callipers is exhibited Tab. Gunners, fig. 2,
the furniture and use of which we shall now briefly describe.

Let the four faces of this instrument be distinguished by
the letters A, B, C, D; A and D consist of a circular head and
legs; B and C consist only of a leg.

On the circular head adjoining to the leg of the face A are
divisions denominated shot diameters, which shew the
distance in inches and tenths of an inch of the points of
the calipers when they are opened; so that if a ball not
exceeding ten inches be introduced between them, the bevil
diameter marks its diameter among the five divisions.

On the circular head part of the face B is a scale of
divisions distinguished by lb. weight of iron shot. When
the diameter of any shot is taken between the points of the
calipers, the inner edge of the leg A shews its weight in
avoirdupois pounds, provided it be lb. 3, 4, 5, 1, 1/2, 2, 3, 4,
5, 6, 7, 8, 9, 10, 15, 17, 20, 24, 25, 32, 36, or 42; the figures
nearer the bevil edge answering to the short lines in the
scale, and those behind them to the longer strokes. This
scale is constructed on the following geometrical theorem,

viz. that the weights of spheres are as the cubes of their
diameters.

On the lower part of the circular head of the face A is a
scale of divisions marked boses of gun; for the use of which,
the legs of the calipers are slipped across each other, till
the said points touch the concave face of the gun in its
greatest breadth; then the bevil edge F of the face B will
cut a division in the scale shewing the diameter of the bore
in inches and tenths.

Within the scales of shot and bore diameters on the cir-
cular part of A, are divisions marked pounders; the inner
figures 1, 1/2, 3, 4, 5, 1, 1/2, 2, 3, 4, 5, 6, 7, 8, 9, 10, 16, 18, 20, 25, correspond to
the longest lines; and the figures 1, 2, 4, 6, 9, 10, 16, 24, 30, 36, to the short
strokes. When the bore of a gun is taken between the points of the calipers, the
bevil edge F will either cut or be near one of these divisions, and shew the
weight of iron shot proper for that gun.

On the upper half of the circular head of the face A are
three concentric scales of degrees; the outer scale consisting
of 180 degrees numbered from right to left, 10, 20, &c.
the middle numbered the contrary way, and the outer scale
beginning at the middle with 0, and numbered on each side
to 90 degrees. These scales serve to take the quantity of
an angle, either entering or falling. For an entering, or
internal angle, apply the legs of the calipers so that its
outward edges coincide with the legs of the given angle, the
degree cut by the bevil edge F in the outer scale shews the
measure of the angle sought: for a falling, or external
angle, slip the legs of the calipers across each other, so that
their outward edges may coincide with the legs forming the
angle, and the degree marked on the middle scale by the
bevil edge E will shew the measure of the angle required.

The inner scale will serve to determine the elevation of
 cannon, or mortar, or of any oblique plane. Let one end
of a thread be fixed into the notch on the plate B, and
any weight tied to the other end; apply the straight side
of the plate A to the side of the body whose inclination is
sought, hold it in this position, and move the plate B, till
the thread falls upon the line near the centre marked Perp.
Then will the bevil edge F cut the degrees on the inner scale,
shewing the inclination of that body to the horizon.

On the face C near the point of the calipers is a little
table shewing the proportion of troy and avoirdupois
weights, by which one kind of weight may be easily reduced
into another.

Near the extreme of the face D of the calipers, are two
tables shewing the proportion between the pounds weight
of London and Paris, and also between the lengths of the
foot measure of England and France.

Near the extreme on the face A is a table containing four
rules of the circle and sphere; and geometrical figures
with numbers annexed to them: the first is a circle includ-
ing the proportion in round numbers of the diameter to its
circumference; the second is a circle inscribed in a square,
and a square within that circle, and another circle in the
inner square: the numbers, 28, 22, above this figure, exhibit
the proportion of the outward square to the area of the
inscribed circle; and the numbers 14, 11, below it, shew
the proportion between the area of the inscribed square
and the area of its inscribed circle. The third is a cube inscribed
in a sphere; and the number 89/4 shows that a cube of iron,
inscribed in a sphere of 12 inches in diameter, weighs 89/4.
The fourth is a sphere in a cube, and the number 95 shows
that a cube of iron, or a sphere of 12 inches in diameter,
weights 95.

The fifth represents a cylinder and cone of one foot diameter and height; the number
in the cylinder shews, that an iron cylinder of that diameter
and height weighs 364.4 lb. and the number 121.5 in the cone expresses the weight of a cone; the diameter of whose base is 12 inches, and of the same height: the sixth figure shows that an iron cube, whose side is 12 inches, weighs 454 lb. and that a square pyramid of iron, whose base is a square foot and height 12 inches, weighs 154 lb. The numbers which have been hitherto fixed to the four last figures were not strictly true; and therefore they have been corrected in the figure here referred to; and by these the figures on any instrument of this kind should be corrected likewise.

On the leg B of the callipers, is a table showing the weights of a cubic inch of various bodies in pounds avoirdupois.

On the face D of the circular head of the callipers is a table contained between five concentric segments of rings; the inner one marked Guns shows the nature of the gun, or the weight of ball it carries; the two next rings contain the quantity of powder used for proof and service to braze guns, and the two outermost rings show the quantity for proof and service in iron cannon.

On the face A is a table exhibiting the method of computing the number of feet or fathoms in a triangular, square, or rectangular pile. Near this is placed a table containing the principal rules relative to the full of bodies, expressed in an algebraic manner: nearer the centre we have another table of rules for raising water, calculated on the supposition, that one horse is equal in this kind of labour to five men, and that one man will raise a hogshead of water to eight feet of height in one minute, and work at that rate for some hours.

N. B. Hogheads are reckoned at fifty gallons.

Some of the leading principles in gunnery, relating to floating in cannon and mortars, are expounded on the face B of the callipers. Besides the articles already enumerated, the scales usually marked on the sector are laid down on this instrument: thus, the line of inches is placed on the edge of the callipers, or on the right borders of the faces C, D, the logarithmic scales of numbers, lines, verified lines, and tangents, are placed along these faces near the straight edges, the line of lines is placed on the same faces in an angular position, and marked Lin. The lines of plans or superficies are also exhibited on the faces C and D, tending towards the centre, and marked Plan. Finally, the lines of grids are laid on the same faces tending towards the centre, and distinguished by Sol. See farther on the construction and use of this instrument. Robertson's Treatise of Mathematical Instruments, &c. Appendix.

CALICA, in Mythology, an Indian goddess, which seems to have possessed the attributes of the Grecian Hecate. Mr. Blackmore, with a view of ascertaining the fact, that human sacrifices were offered to this horrible deity, examined the Puranas which bear her name. Birds, tortoises, alligators, fish, nine species of wild turkeys, buffaloes, bulls, he-goats, ichnuncus, wild horses, rhinoceroses, antelopes, guanas, rain-deers, lions, tygers, men, and blood drawn from the officer's own body, are looked upon as proper oblations to the goddess Chandica, &c. The following injunction afterwards occurs: when the facricce of lions, of tygers, or of the human species is requested, let the three frill claffes act these, having formed the image of the lion, tyger, or human shape, with butter, paflry, or harley meal, let them facricce the flame: as if a living victim, the axe being frill invited by the text : "Nomo!" that text is as follows: "Call! Cal! O horrid-toothed goddess! eat, cut, destroy all the magianst: cut with this axe; bind, bind, feize, feize: drunk blood, tear, tear: secure, secure: salutations to Cal!" Among other exceptions, with regard to human victims, those that are unwilling are expressly prohibited. Alatia Researches, vol. v. p. 374, &c.

CALI-CALIS, in Ornithology, the Madagacar Shrike, Lanius madagascariensis, stands under this name in Buffon's Natural History of Birds.

CALICO, in Geography, a river of European Turkey, which runs into the gulf of Salomki; 14 miles S.W. of Salomki.

CALICOLAN, COYLAN, or QUILON, a Dutch factory on the western coast of Malabar, an at 14 geographical miles to the N.N.W. or N.W. of Arjengo, or Arjenga, placed by major Rennell in N. lat. 8° 35’. L. long. 76° 40’.

CALICULA, in Ancient Geography, a town of Spain, placed by Ptolomy in the Tarragonensis, and appilned to the Turdab.—Also, another town of Spain, which Ptolomy places in the territory of the Turdetani.

CALICUT, in Geography, a country of Afa, and a very extensive flat on the coast of Malabar. Its chief allumed the title of king of kings. The hall of these princes, called Sarana Parimal, having embraced Mahometanism, retired to end his days at Mecca, and dividing his dominions between the princes of his own blood, relived, as it is said, a space of 12 leagues for one of these princes, or a favourite page, who was to have the title of Samorin, and to whom the others were to render homage. The samorin built a city on the spot whence Parimal took his departure, and called it Calicuent. He who afterwards governed Calicut, inhabited a palace of Rome, and annexed some appearance of grandeur to his court. In former times, the inhabitants of this district had several strange customs, some of which are still retained. Accordingly it is said, that the Samorin's wife must be first enjoyed, for three nights if he pleases, by the high priest. The nobles permit the other priests to take the fame liberty; but the lower people are debarred from this honour. A woman may marry a number of husbands; each of whom has her by turns for ten days or more, as they agree among themselves; and during that time he provides for her all necessaries. When she proves pregnant, the name the father of the child, who, after it is weaned, takes care of its education. The "Naires" of Calicut form band of nobles, whole only profession is that of arms. These men, though of an olive colour, are comely and handsome; they are tall and hardy, very valiant, and dextrous in the use of their weapons. They lengthen their ears to such an extent, that they hang down on their shoulders, and sometimes lower. Their Naires are allowed only one wife, but the women of rank may have as many husbands as they chuse, whom they regard as slaves subjected to their beauty. Women of inferior condition supply the defect of the privilege appropriated to ladies of rank, by indiscriminate commerce with strangers, from which their husbands cannot restrict them. The mothers prostitute their daughters even before they arrive at a proper age. The "Naires," or nobles of Calicut seem to be of different race from the burgesses; for the latter, both males and females, are of a smaller stature, and are ugly, and more ugly. Among the "Naires" there are some men, as well as women, whose legs are as thick as the body of an ordinary man. This deformity is not the effect of disease, but comes from their birth. The skin of these legs is hard and rough like a wart; and, nevertheless, the persons afflicted with it are nimble and active. This race of men with thick legs, has not multiplied greatly; either among the "Naires," or the other Indians. However, they appear in other places, and especially in Ceylon, where they are said to be of the race of St. Thomas. Du Buffon's Nat. Hist. vol. iii. p. 99. Eng. Ed. The people of this country have no pens, ink, or paper;
paper; but write with a bodkin on flags that grow by the sides of the rivers, which are so strong as to be durable for many years. The district called Calicut is about 65 miles long, and nearly as many broad. The air is salubrious, though it has many woods, rivers, and marshes; the soil is fertile, but it does not produce much grain; it is subject to inundations from the sudden descent of the mountain-rivers; and the sea also has made such ravages on the coast as to oblige the Samorin to transfer his residence from Calicut to Pananany. Along the sea coast, the land is low and sandy, and produces a number of cocoanut-trees. The higher grounds produce pepper and cardamonds of a good quality. The country also supplies timber for building, white and yellow sanders, caffia lignea and siltula, nux vomica, and cocculus indicus. The forests abound with parrots and monkeys, and various sorts of game; they have plenty of fish, and their mountains yield iron. The Samorin is said to be able to raise an army of 100,000 men.

Calicut, the capital of the country above described, is situate on the coast of Malabar. This city is remarkable for being the first Indian port visited by European shipping. Vaejo de Gama, having doubled the Cape of Good Hope, and pursuing his navigation along the south-east of Africa, arrived at the city of Melinda; and conducted by the pilots of this civilized and commercial city, he sailed across the Indian Ocean, and landed at Calicut, on the 21st of May 1498. This was at that time the most flourishing place on the Malabar coast. The Samorin, or monarch of the country, astonished at this unexpected visit of an unknown people, whose affect, arms, and manners, bore no resemblance to any of the nations accustomed to frequent his harbours, and who arrived in his dominions by a route hitherto deemed impracticable, received them at first, with that fond admiration which is often excited by novelty. But in a short time, as if he had been inspired with foreknowledge of all the calamities now approaching India by this fatal communication opened with the inhabitants of Europe, he formed various schemes to cut off Gama and his followers. But from every danger to which he was exposed, either by the open attacks, or secret machinations of the Indians, the Portuguese admiral extricated himself with singular prudence and intrepidity, and at last failed from Calicut with his ships loaded, not only with the commodities peculiar to that coast, but with many of the rich productions of the eastern part of India.

Calicut, though much fallen in its consequence, is still a large town, containing about five or six hundred houses, built of wood, or bricks baked in the sun, in the middle of which are beautiful gardens. Thus circumcised, it is three leagues in circumference, including a large village or suburb, inhabited by fishermen. It is governed by a vicerey, but wants a regular police; and its commerce, which is still not inconsiderable, on account of a convenient river by which timber is brought down from the neighbouring mountains, is much oppressed by burdensome duties, generally farmed by Mahometans. The coast is low, and affords no shelter, and the only access to it is by small flat-bottomed boats. But though it has no harbour, it affords to the ships that visit it good riding in the open sea, at the distance of three leagues from the shore. The English factory, which formerly subsisted in this place, is now removed to Tulicherry. N. lat. 11° 18'. E. long. 76° 4'.

Calidris, in Ornithology, a species of Scopolarx that inhabits Europe and America, and well known in this country by the name of red-shank. The bill is straight and red; legs scarlet; secondary quill feathers white. Kramer. This is the totanus of Drifton, scolopax totanus of the Fauna Suecica, rothien of Friisch, &c.

Of a. A variety of this species is found in China, the body of which is grey above, and beneath white; lower part of the neck, and side of the breast, spotted with blackish; rump and tail barred with black and white. Latham, &c.

Calidris, a species of Tringa, the bill and legs of which are blackish; body beneath olivaceous; rump variegated. Gmel. This is the dusky sandpiper of Latham; calidris of Drifton; rallioca fylvatica of Groner and Aldrovanus; and manchurae of Buffon. Inhabits the maritime parts of France and Germany. Length nine inches and an half.

Calidris, a species of Motacilla, called by Latham the hang-nell warbler; and American nightingale of Edwards. The plumage is greenish-brown above; beneath, fulvous; ocular line, and another beneath it, black. Gmel. This is the Scedula Jamaicens of Drifton; and grand sifuer de la Jamaque of Buffon.

This bird is of the size of a robin, and builds a hanging nest; it inhabits Jamaica, and is supposed to be the watchy picket, Spanish nightingale, or American hang-nell of Sloane.

Calidris nigra, the name under which Aldrovanus describes Tringa gambeletis, the red legged heronman of Albin, and gambet of other English writers.

Calidris grisea of Brifton is the Gmelinian Tringa griseta; and Calidris grisea minor of the same author: Tringa arnoria of Gmelin. Brifton also describes Tringa nevia of Gmelin under the name of Calidris nevia. Calidris beloni of Aldrovanus is the Calopax calidris of Kramer, &c.

Calidris, a species of Charadrius, called in England the sandpiper or curwillet. The bill and legs of this bird are black; lores and rump greyish; body beneath white, without spots. Georg. It inhabits the sandy coasts of England and North America. Length eight inches.

Of b. There is a variety of this species in which the front, and body beneath is cinctuous white.

CALIDUCs, from color, heat, and deo, I lead; a kind of pipes, or canals, disposed along the walls of houses and apartments; used by the ancients for the conveyance of heat to several remote parts of the house, from one common furnace.

The ancient caliduits seem both for their beauty and use preferable to the German flowers; and might even challenge the advantage over our own fashion, were it not that the very fire of a sight adds something of lustre to a room.

CALIDUS, in Entomology, a species of Cimex of the middle size, found in Africa. The colour above is fusces; beneath, yellowish, with black antennae. Fabricius.

Calies, in Geography, a small town of Germany, in the circle of Upper Saxony, and New Mark of Brandenburg, chiefly inhabited by weavers of woollen cloth; 16 miles E. of Dorz.

California, a tract of country, formerly thought to be an island, but now ascertained to be a peninsula, on the western coast of North America, bounded on the north by the continent, with which it is connected, on the east by the province of New Mexico and the gulf of California, or the Vermilion Sea, which separates it towards the southern part from the continent, and on the south and west by the great Pacific Ocean. This peninsula terminates on the west at Cape Santiago, in N. lat. 35° 40', and W. long. 110°, and extends northward to limits that have not been precisely ascertained. Some have fixed its northern extremity at Cape St. Schafftan, in N. lat. 43° 30'; whilst others have extended it to 46°, and have made its length 600 leagues, and its breadth at different places, 10, 20, 30, and 40 leagues. North California, indeed, of which the most northern settlement is San Francisco, in N. lat. 37° 55'.
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The enterprise of Cortes, the Spaniards, were first intended for the discovery of the extensive peninsula of California. Having fitted out several small squadrons for the purpose of protecting such voyages of discovery as he could make, from the ports of New Spain in the South Sea, which either perished in the attempt, or returned without any success of importance; this adventurous conqueror of Mexico determined to take the command of a new armament in person; and, after enduring incredible hardships, and encountering every kind of danger, he at length, viz. in 1540, discovered this peninsula, and surveyed the greater part of the gulf which separates it from New Mexico. During a long period, however, this country was so little frequented, that even its form was unknown; and in most charts it was represented as an island, and not as a peninsula.

In 1542, Mendocino, vicerey of Mexico, dispatched Francisco Alercon to search towards the west for the pretended strait of Anian; but he advanced no higher than the latitude of 36°, and made no discovery. This same project was renewed in 1543, by Rodríguez de Cabrillo; but this whole expedition served only to explore a cape in the latitude of 41° 30', which was denominated Capo Mendocino, in honour of the Mexican vicerey. In 1578, Sir Francis Drake found, that in the latitude of 48°, there existed lands and men; and after having reconnoitered the coast through an extent of 220 leagues, which terminates in 37°, he called the country which he had discovered "New Albion," and took possession of it in the name of Elizabeth, queen of England. In the latitude of 38° 30', he discovered the harbour where he made some stay, and which has preferred his name. From an account of Drake's voyage, published in a treatise entitled "The World encompassed by Fletcher," London, 1673, 4to, it appears, that he gave to the country which he discovered the name of "New Albion," for two reasons: first, because from the nature of the rocks and shoals with which the coast is skirted, it presents the same aspect as that of England; and secondly, because it was reasonable and just, that this land, till then unknown, should bear the name of the country of the first navigator who landed there. In 1592, a Greek of the island of Cephalonia, Juan de FucUA, in the service of Spain, discovered towards the 49th parallel, a large strait by which he pretended to have reached the Atlantic Ocean. Fucua's strait, or inlet, has been found again in our days; but the communication of the two oceans is neither better proved, nor more probable, and might perhaps exist only in his account. See Fucua's Strait. In 1595, a galley was sent to make discoveries on the shore of California; but the vessel was unfortunately lost in Port des los Reyes. In 1602, the Spanish admiral, Sebastian Viscaino, or Bifcaas, was charged by count de Monterey, vicerey of New Spain, to explore, to the north of California, a harbour that might afford an asylum to the galleons on their return from Manila: he discovered a commodious one, safe and well situated, in the latitude of 36° 40', to which he gave the name of the vicerey Monterey, and which is since become the principal settlement of the Spaniards on the N.W. coast.

It is asserted, that a small vessel belonging to his squadron, commanded by Martin de Aguilan, found between 40 and 44 degrees, the mouth of a great river which bears his name on the geographical maps. It is added, that, having succeeded in doubling Cape Mendocino, which, till then, had only been perceived, he discovered on the 13th of January 1603, 30 leagues more to the northward than this cape, in the latitude of 43°, a second cape or point, to which he gave the name of Capo Blanco, and that the navigable inlet or large river which he discovered is near this cape, and that it is a strait which leads to a great city, named "Qui&ria;" but that he was prevented by the rapidity of the current from ascending the river. The navigators of later times have procured no information respecting either this inlet of Aguilar, or the great city of Quivira.

La Pérouse, who, in 1786, gave a distant view of Capo Blanco, and of the parts of the coast which are nearest to it to the northward and southward, saw nothing of Aguilar's inlet; but as he was then at a considerable distance from the land, and as he did not make a particular search for this inlet, no conclusion can be drawn from his account against its existence. Most of the geographical and hydrographical charts place Aguilar's inlet or river to the southward of Capo Blanco; but Tomas Lopez, in his general chart of America, published in 1772, lays it down 20 leagues to the northward of that cape, in the latitude of 44°, with this simple indication, "Rio que corre a Puente," river that runs to the west; and he makes no mention of the great city Quivira.

In 1640, admiral Bartolomeo de Fuente, or De FucUA, is said to have discovered, towards the parallel of 45°, the archipelago of San Lazaro, the river of Los Reyes, some great lakes, &c. and an easy passage of communication between the Great Ocean and the North Atlantic Ocean. This discovery, inferred in an account, the authenticity of which has been contested, and in which truth is blended with falsehood, has been confirmed by modern navigators, as to what regards the archipelago of San Lazaro, and perhaps an interior sea; but the communication of the two oceans is not better established than that which had been opened by Juan de Fucua. About the middle of the last century, Joseph Nicolas de Lisle, and Philippe Buache, published learned dissertations and ingenious systems for the purpose of reconciling the discoveries of De Fucua on the N.W. coast of America with what is known beyond of that northern part of the new continent. Other geographers and learned persons have considered the account of De Fucua as counterfeit and apocryphal; and among the latter is Dr. Reinhold Forster, who, with his son George Forster, accompanied captain Cook in his second voyage, and to whom we are indebted for an excellent "History of the Voyages and Discoveries, made in the North." M. de la Pérouse also expresses his thorough disbelieve of the narrative ascribed to admiral de Fuente, and of the reality of any discoveries in the contested channel of San Lazaro, or St. Lazarius. Mr. Millet Mureau, on the contrary, acknowledges himself one of the strongest partisans for the existence of a north-west passage. Indeed, when we consider, that since the question first arose concerning a north-west passage from Europe into the Pacific Ocean, many scientific and capable men have been conjointly on the watch, and eager to pursue the inquiry, it is not at all probable that such voyages as are related by Mureau, if really made, should not have been fully verified; and that there should remain no other traces of them than a kind of vague tradition.

During almost a whole century, if we except the contested voyage of De Fucua, the west coast of North America was not visited by any of the nations by which it was conquered, or by any of those which have been since called thither by the allurements of commerce. But although Spain made no maritime expedition, she did not neglect to push by land her discoveries towards the north; and the excursions which she planned and ordered, at different periods, led to a discovery, to the southward of California, of the rich
rich provinces of Sonora and Cinaloa, which fee. In 1584, the marquis de la Laguna, viceroy of Mexico, dispatched two ships with a tender, to make discoveries of the lake of California, of which he brought back an indifferent account; though he was among the first who ascertained its being joined to the continent of America, and contiguous to that of Aia. It is said, however, that we owe to father Cahin, a German Jesuit, the absolute certainty that California is a peninsula, joining to the continent of New Mexico, and the more northern parts of South America. He landed on the former from the island of Sumatra, and passed to the latter without crossing any other water than the river Azal, into which the Rio Colorado falls, in about the 35th degree of north latitude. Dr. Robertson observes, that the uncertainty of geographers with respect to this point is remarkable, as Cortes seemed to have surveyed its coast with great accuracy. The archbishop of Toledo has published from the original, in the possession of the marquis del Valle, the descendant of Cortes, a map drawn in 1541, by the pilot Domingo Caffillo, in which California is laid down as a peninsula, stretching out nearly in the same direction which is now given to it in the best maps, and the point where Rio Colorado enters the gulf is marked with precision. Towards the close of the 17th century, the Jesuits, who had great merit in exploring the neglected province of California, and in civilizing its rude inhabitants, imperceptibly acquired a dominion over it as complete as that which they possessed in their missions in Paraguay, and they laboured to introduce into it the same policy, and to govern the natives by the same maxims. In order to prevent the court of Spain from conceiving any jealousy of their designs and operations, they feign flattering to have depreciated the country, by representing the climate as so disagreeable, and infederable, and the soil so barren, that nothing but a zealous desire of converting the natives could have induced them to settle there. Several public-spirited citizens endeavoured to undeceive their sovereigns, and to give them a better view of California; but without effect. At length, on the expedition of the Jesuits from the Spanish dominions, the court of Madrid, as prone at that juncture to suspect the purity of the order's intentions, as formerly to confide in them with implicit truism, appointed Don Joseph Galvez, whose abilities afterwards raised him to the high rank of minister for the Indies, to visit that peninsula. His account of the country was favourable; he found the pearl-fishery on its coasts to be valuable, and discovered mines of gold of a very promising appearance. From its vicinity to Cinaloa and Sonora, it is probable, that if the population of these provinces should increase to the degree that may reasonably be expected, California may, by degrees, receive from them such a recruit of inhabitants, as to be no longer reckoned among the desolate and unprofitable districts of the Spanish empire. To this intelligent minister, Spain is indebted for a new distribution of government in its American provinces, and for several important alterations in the state of their police and revenue, as well as a general reformation of the tribunals of justice in America. Since the limits of the viceroyalty of New Spain have been considerably circumscribed, four of its mott remote provinces, viz. Sonora, Cinaloa, California, and New Navarre, have been formed into a separate government; and in time, the beneficial effects of this arrangement may be very considerable. Under the immediate inspection of a governor, to whom these rich provinces are specially committed, they must rise into importance and prosperity; and in common with many other districts of America, long depressed by the languor and feebleness natural to provinces which compose the extremities of an over-grown empire, they may be animated with vigour and activity, when brought to bear the force of power as to feel its invigorating influence.

It was not till the year 1741, that Beering and Tchirikov, in the service of Russia, discovered the north-west coast of America; the former, towards the 58th parallel; the latter, towards the 56th. Since that period, the discoveries of the Russians have extended from the parallel of 56° to the mild northern part of the west coast; and they have comprised, in the surveys which they have made of it, the peninsula of Alaska, and the long chain of the Aleutian islands, both belonging to the continent of America.

After a period of 167 years of lethargy, the spirit of discovery, and the tale for expeditions to the north, revived among the Spaniards. Accordingly, in 1779, vessels were dispatched from the port of San Bias, under the command of Don Vincente Vila, in order to establish a presidio at the harbour of San Diego, in N. lat. 33° 40', on the rail of California; and another at that of Monterey in N. lat. 36° 25', but this expedition afforded no discovery; however, after a whole year of researches and fatigue, the Spaniards succeeded in finding again the harbour of Monterey, the latitude of which had been indicated to them by Vicenzo in 1682. Discoveries in higher latitudes were suspended at this time; because an object of greater importance, and for the accomplishment of which, Don Joseph Galvez had been commissioned from Spain, occupied the whole attention, and all the efforts of government. In 1775, a second expedition, under the direction of Don Juan de Ayala, and of his pilot Don Francisco Antonio Murelle, effected the discovery of some capes, and of some bays and harbours between the 47th and 55th parallels. This voyage made known the harbour of Trinidad in N. lat. 41° 7'; Cape Meafari, in 45° 57'; Cape St. Angelina, in 55° 17'; port Bucarelli, in 57° 16'; Mount San Jacinto, and Cape del Angano, in 57° 21'; Guadalupe bay, in 57° 11', in its north part; the harbour of Los Remedios, in 57° 18'; and St Francis Drake’s harbour of Francisco, in 38° 18'. A third and a fourth voyage in 1778 and 1779, made no additional discovery; and the second merely afforded the assurance that the Russians had formed fixed settlements on several points of the high latitudes. But, as far back as 1778, while the Spaniards were employed in a minute survey of their port Bucarelli (see Bucarelli), the drift of navigators, as he is deciphered from the letters of M. Fleurius, Captain Cook, carried his talents, experience, and information, towards the north-west coast of America; and Europe owes to his industrious researches the first certain knowledge that she has had of the west part of the new world. He made the land on the 7th of March 1778, in the latitude of 44°. Thwarted by the winds, he could only dilate in a few capes or points of land, called Cape Gregory, Cape Perpetua, and Cape Foulweather, the 8th of the three, or Cape Gregory, which he places in 43° 16', appears to be Agnaha’s Cape Blanco, so called by him in 1662. He left the land again till he reached it in 48°, where he perceived, at a distance, in 48° 15', a cape which he named Cape Flattery. At length, after long struggling with adverse winds, he ran in for the land, in the latitude of 49° 36', and anchored in a bay which he first called King George’s Sound, and known among the inhabitants of the country by the name of “Nootka.” This Nootka Spain claimed in 1790, as an integral part of her American dominions. Having examined a few points above the 50th parallel, he discovered, in 60°, Prince William’s Sound, and Cook’s river; and having rounded the peninsula of Alaska, he visited some of the Aleutian islands (see ALEUTIAN), and thence advancing to the highest latitudes which
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which the late parables navigators to reach, he blended his
distle with that which the Spaniards had made from the
time, and building on the house of America, by the
skins of the skins, which are the treasures of the forests
of north-west America; in short, he opened a new career to
the ever-increasing activity of a nation, whose commercial
operations embrace the two hemispheres throughout the
whole circumference of the globe. In 1596, La Pérouse
directed his course towards the N.W. coast of America, and
made land on Bering's mount St. Elias, in the latitude of
50°, he ranged along the lands of the continent for an
expanse of 270 leagues from that parallel to the harbour of
Monterrey, and particularly applied himself to the examina-
tion of these parts of the coast from which captain Cook
had been repulsed by contrary winds; he discovered a fine
harbour in N. lat. 58° 17', which he called "Port des Français," (which fees); and in the course of his surveys, which were
both minute and accurate, he verified and confirmed some
of the discoveries of 1775, which the Spaniards had scarcely
indicated.

Of Monterrey, and the adjacent country, La Pérouse has
given a particular account, of which we shall avail ourselves
under that article. This is the place of residence of the go-


domor, with the northern and southern, or the New and Old. This
government is subordinate to the vice-royalty of Mexico; and La Pérouse informs us, that it extends to more than 300 leagues in circumference, for
the maintenance of which 282 soldiers of cavalry are found
sufficient. These garrison five small forts, and furnish det-
thachments of four or five men to each of the 2 5 millions, or
parishes, into which the provinces of Old and New Califor-
nia are divided. These small guards suffice to keep in sub-
jection about 50,000 wandering Indians, who often change
their residence according to the fishing and hunting fea-
son, and who are spread over this vast extent of the American
continent. Of these, about 10,000 have embraced Christi-
anity. These Indians are generally little and feeble, and
ev'n no signs of that love of independence and liberty, which characterizes the northern nations, to whose arts and
industry they are strangers. Their complexion very nearly
resembles that of those negroes, whose hair is not woolly:
that of this nation is long, and very strong, and they cut it
four or five inches from the roots. Several of them have
beards, while others, according to the millonaries, never
had any; though this is a point not decided in the country
itself. The governor, who had travelled much in the in-
terior part of the country, and had lived with the savages
during 15 years, assured La Pérouse that those who had no
beard, had extracted it with bivalve shells, used as pins
ers. The president of the missions, however, who had refrained
as long in California, maintained the contrary. These
Indians are very expert in the use of the bow, but they rarely
pull the bow till they creep within 15 paces of their prey.
In hunting, they crawl on the ground, with flags' heads
fixed on their own, and thus approach a herd of fags, till
being within reach of them. they kill them with their ar-
rows. Loretto is the only presidio or military fort of Old
California, on the easter coast of that peninsula. Its gar-
rision consists of 254 cavalry men, and furnishes detachments
to the 15 following missions, of which the functions are
performed by the Dominican monks, who have succeeded the
Jesuits and Franciscans. These last, however, remain
in undisturbed possession of the ten millions of New Califor-
nia. The 15 millions of the department of Loretto are,
San Vincente, S. Domingo, El Rosario, S. Fernandez,
S. Francisco de Borgia, S. Gertrudis, S. Ignacio, La Guad-
alupe, Santa Rosalia, La Concepcion, S. Josef, S. Fran-
cisco Xavier, Loretto, S. Joseph de Calo Lacor, and To-
dos los Santos. About 400 Indian converts, collected
round these 15 parishes, are the only fruit of the long
apostleship of the various religious orders, who have suc-
ceeded in undertaking this painful duty. As yet there is only
one Spanish village. Indeed, the climate is unhealthy, and
the province of Sonora, which forms the boundary of the Ver-

turion sea to the westward, and California to the northward,
is much more attractive to the Spaniards, who find there
a fertile soil, and abundance of mines; which are, in their
evaluation, more important objects than the pearl fishery of
the peninsula, which requires a considerable number of slaves
who can dive, and whom it is difficult to procure. Yet North
California, notwithstanding its great distance from Mexico,
appears to combine much greater advantages. For an
account of its presidios, see New Albion. The Franciscans
established their first mission here in 1770; and they have
now ten, comprehending 5141 converted Indians. The
picty of the Spaniards has kept up the presidios at a great
expense, apparently from no other motive than that of
converting and civilizing the Indians of these countries. But
from later discoveries, a new branch of commerce may pro-
cure to Spain more solid advantages than the richest mines
of Mexico, and the fertility of the soil, and the abundance of
furs, for which they have a certain market in China, give to this part of America the most
important advantages over Old California, whose unholy
stones and fertility cannot be compensated by a few pearls
collected from the bottom of the sea.

Before the Spaniards settled in this country, the Indians
of California only cultivated a little maize, and almost en-
tirely subsisted on fishing and hunting. No country abounds
more with all sorts of fish and game. Hares, rabbits, and
flags, are very common; otters and sea-wolves abound to-
wards the north; and in winter they kill a great number of
bears, foxes, wolves, and wild cats. The coppices and
plains are full of small, cottage partridges, which flock to-
go in coys of 3 or 400; they are fat and well fla-
voured; and the trees afford lodging to a vast variety of
birds and fowl. As to the fertility of the soil in the coun-
try adjoining to the presidio of Monterrey, it exceeds con-
ception. The harvets of maize, barley, wheat, and peas,
can only be compared to those of Chili; and the average
produce of corn is from 70 to 80 fold. Fruit trees are li-
therto scarce; but the climate is well adapted to them, be-
ing nearly that of the southernmost provinces of France.
The cold is never more severe, and the heats of summer are
much more moderate, and consequent of the perpetual mills,
which ferment the earth with continual mossiture. The fu-
rolls contain the pine-apple fir, cypres, ever-green oak,
and wellan plane-tree. La Pérouse pays a tribute of singular
respect to the monks of this presidio; and contributes their
dispensation and conduct, very much to their advantage,
against those of the monks of Chili.

The huts of the Indian villages, in both Californias, are
the most miserable that can be conceived. Their form is
circular, and six feet in diameter by four feet high. Some
flakes about the size of the arm being fixed in the ground,
and brought together in an arch at top, compose their
frame, and eight or ten trusses of thraw, badly arranged
upon these flake, defend the inhabitants more or less from
the rain and wind. The Indians adhere to this mode of con-
structing their habitations, notwithstanding the exhortations
of
of the missionaries, alleging, that they love the open air, and that they can easily let fire to their huts when they are too much annoyed by flies, to which vermin they are subject, and then rebuild them in an hour or two. Besides, these habitations are most suitable to those independent Indians who are perpetually changing their abode. The colour of these Indians, the huts of the monks, their magazines built of brick and plastered, the threshing floor on which they tread out their corn, the cattle, the horses, and, in short, every thing presented the appearance of a plantation in St. Domingo, or any other colony. The men and women are assembled by the found of a bell, and a monk leads them to work, to church, and to all their employments. The monks are the temporal, as well as spiritual, superiors, and the whole produce of the earth is committed to their management. The day is divided into seven hours of work, and two of prayer; but four or five on Sundays and fealt-days, which are wholly devoted to red and religious worship. Corporal punishments are inflicted on the Indians of both sexes, who neglect their pious exercises; and many crimes, which in Europe are referred to divine justice, are punished with chains or the rods. As soon as a new convert is baptized, he is under the obligation of a perpetual vow; and if he desert the religious society, and return to his relations, he is summoned three times to come back; and if he refuse, a party of soldiers is sent by the authority of the governor, to force him away from his family, and conduct him to the missions, where he is condemned to receive a certain number of blows. The Indians, like the missionaries, rise with the sun, and then go to prayer and to mafs. During this time, barley-meal is boiled in a cauldron, and the mafs, which the Indians call "atole," and which they much like, is seasoned neither with butter nor fat. This repast occupies about three-quarters of an hour, after which, all go to their respective occupations, under the superintendence of one or two monks. The employment of the women, besides that of conducting their household affairs, is the management of their children, and the rolling and grinding of their grain; they also spin their wool, and manufactures some coarse flax. At noon the bells ring for dinner, and the Indians partake of a mafs similar to that of their breakfast, called "ponfole," except that it is thicker, and contains, besides the corn and maize, peas and beans. From two to three they return to work till four or five, and close the day with prayers, and with another mafs of atole. The distribution of these mafes is faithfully made; and the least dishonesty is punished by the lash, which is ordered by Indian magistrates, called "Caciques." The punishment inflicted on the women is private; but that of the men is public, that it may serve as an example. Their rewards consist in small distributions of grain; and on feast days, their mafs of beef, which many eat raw.

Such is their honesty, that no example occurs of their robbing one another, though they have no other door than a truss of straw laid across the entrance when the whole family is absent. The men in these missions have furnished more to Christianity than the women; for to them paga-ymony was allowed, and it was even the custom to marry all the fathers of a family. The monks make themselves the guardians of female virtue; for, about an hour after supper, they lock up all those who have husbands absent, as well as all girls above nine years old, and place them under the care of matrons during the day; but all these precautions are in some cases insufficient. The converted Indians retain all their ancient customs, that are not forbidden by their new religion; the same laws, the same games, and the same dreeses. The richest wear a cloak of otter-skin, covering the loins, and reaching below the middle; others wear only a piece of cloth to cover their shoulders, and a little cloak of rabbit-skin, covering the shoulders, and reaching to the loins, and tied with a pack-thread under the chin. The women’s dress consists of a sheet of flax, which is badly tamed. Young girls, under nine years old, have only a girdle round the loins, and the boys are wholly naked. The hair of both men and women is cut four or five inches from the roots.

The Indians of the “Rancherias,” or villages of independent Indians, having no iron utensils, perform this operation with fire-brands, and paint their bodies red, which they change into black when in mourning. They retain an affectionate remembrance of their deceased friends, and are easily melted into tears by the mention of them: nevertheless, children scarcely know their own father, because they defert his but as soon as they are able to provide for themselves; but they are more durably attached to their mother, who brings them up with care and tenderness. The old men of the Rancherias, who are no longer able to hunt, live at the joint expense of the whole village, and are treated with general respect. Their arms are the bow and arrow, pointed curiously with a flint. These Indians neither eat their prisoners, nor their enemies killed in war; although when they have conquered, and put to death some chiefs, and very brave men in the field of battle, they eat some morsels of their bodies, thus doing homage to their valour, and apprehending that such food would increase their courage. They are accustomet, like the Canadians, to take off the scalp of the vanquished, and to tear out their eyes, which they have the art of preserving from corruption; and it is their practice to burn their dead, and to deposit their ashes in a morain. The mixed government exercised in the missions of California is, with regard to the Indians, a real theocracy; for they are taught to believe that their superiors hold an immediate and constant intercourse with God, and that they bring him down each day upon the altar. Under favour of this opinion, the fathers live in the midst of the villages in perfect security, nor do they shut their doors during the night. Murder is very uncommon even among the independent tribes, and is punished only by general contempt; but if a man falls under the united attack of several affidants, he is supposed to have deserved his fate, as he had drawn upon him so many enemies. M. la Perouse observes, that the sense of table is that which these people most delight in gratifying; and the word "Milchi," which in their language signifies a good man, likewise denotes favoury food. Among other peculiarities of these people is their gaming; it is remarkable for the ingenuity of their games than for the nature of the flaks. Among the Indians of the missions, the common flake is beads; but among the independent Indians, the favours of their women are the prizes. New California, we are told, cannot yet reckon a single settler, notwithstanding its fertility, except a few soldiers who are married to Indian women. La Perouse observes, that the administration of the villages converted to Christianity would be more favourable to population, if property and a certain degree of liberty formed its basis. However, since the establishment of the ten different missions of North California, the holy fathers have baptized 7,015 Indians of both sexes, and have buried only 2,883. Almost all the Franciscan missionaries are Europeans, and they have a college and monastary at Mexico, whose guardian is, in America, the general of his order; and this house has its superior in Europe.

The sea-otter skins are as common in the northern parts of California, as in any other part of America; they are to
CALIFORNIA.

They also pierce their ears, and wear in them trinkets of various kinds and fashions. Their skin is tawny, and their nails of a lighter colour than those of the inhabitants of Chili. At Chili and California the appearance of the beard and the change of the voice announce the age of puberty in girls about their 13th year. The girls attain to puberty about the age of eleven or twelve. These nations have nearly the same passions, the same sports, and the same mode of living; and they are equally violent in the expression of joy and anger, which the slightest occasion is sufficient to excite. Their food is commonly game or fish; and their times of eating are sometimes determined by their appetite; but in general each family assembles at the close of the day to their common repast. The Californians make no use of vegetables, except a few pine-nuts; and other summer fruits, which, however, constitute no essential part of their food. Lillenes makes them abominable, but an abundance tempts, and they become voracious gluttons. These nations are divided into hordes; each of which commonly forms a little hamlet; and their habitations are huts or cabins of different shapes, and constructed of different materials. Polygamy is allowed among them, and their marriages last no longer than is agreeable to both parties. To the exclusive possession of their women they attach little importance, often endeavouring to make a market of their favours, which they sell for a piece of old iron, or a few glass beads. Each family seems to defend a government peculiar to itself; and has its chief, its huts, its causes, its implements for the chase and for fishing, and, indeed, all the various means of defence or subsistence. Some chiefs seem to have the command of several families. These chiefs exel the other inhabitants in stature, strength, and courage; they are generally covered with large furs, as tokens of their valor, and distinguished by a kind of extraordinary decoration in their head-dresses and habiliments. The dres of the women consists of a leathern shift, descendings to the middle of the leg, and a mantle of skins, which covers them from the shoulders to the knees. The men wear a similar mantle, and have a skirt of leather, and buckskin of feel's skin; but their feet are commonly naked. As great changes of temperature are experienced in California at different seasons of the year, the inhabitants are subject to diseases peculiar to the country. Sore throats, catarrh, pleurititis, and pulmonary inconveniences, are the ordinary diseases of the winter season; for which they resort to decoctions made of plants, and applied to the parts affected. Ephemeral and intermittent fevers, and dyspepsia, are chiefly prevalent in spring and autumn; and as remedies they excite vomiting by forcing the finger down the throat, and procure copious sweats by a kind of hot baths. The diseases most general in summer are fevers of various kinds, putrid, petechial, inflammatory, and bilious, together with the dysentery. To one or other of these the patient generally falls a victim, unless the efforts of nature are sufficient to produce a salutary evacuation, by blood, urine, or perspiration. Besides these diseases, the inhabitants of California are liable to nervous fever, rheumatism, prurient eruptions, ophthalmia, syphillis, and epilepsy. Syphillis seems never to have been introduced among the natives of California till after their communication with the Europeans, who settled in that part of the continent. The means of cure in which they most confide are the sand-bath, which they call "tamaefet," and a decoction of sudorific plants taken alternately. The women, though liable to similar maladies with those of the men, suffer little inconvenience during the time of gestation, and are almost always delivered with ease. As soon as the infant is born, the midwives tie the umbilical cord, plunge the child
child into cold water, and cleanse it from the sifid humour with which its body is covered. The moment the mother is delivered, she bathes in the sea or a neighbouring river, and is then seated on a hot floce, and covered with furs. When the sweat subsides, and the flove cools, the plunes herfelf again in cold water, and sometimes repeats this process for several fiecutive days. The time of fifkling is unliited; but it commonly extends to eighteen or twenty months; and the infants are swaddled by wrapping them up in furs, after having previously ftratched out their arms and legs at full length, and fixed them in that situation by feveral bandages of leather. They then place the infant in a piece of bark, proportioned to its size, and of the form of a hollow tile, to which he is fatted by straps or bandages of leather.

As to the religion of the Californians it is not easy to determine concerning it; but it feems most probable that before their intercourse with the Europeans they had no temples, altars, oratories, nor any other place set apart for religious exercifes. No outward profeflion of religion appeared in festivals, prayers, vows, or expiations. It is probable, however, that they had some confused notion of an invisible being; but to what extent their fpeculations carried them, it is impossible to fay, as all our flrst relations concerning them have been transmitted to us by the fiftans and other mifteriaires. In a countiy fo extenfive, and comprehending fo many degrees of latitude, the climate must be very various; and the foil and its productions must depend on collateral circumstances connected with their situation, as it is nearer to the fea and to rivers, or more remote from them. In California, there falls in the morning a great quantity of dew, which, fettling on the rofe-leaves, candies, and becomes hard like manna, having all the fweetnefs of refined fugar, without its whitenefs. In the heart of the country, there are also plains of falt, quite firm, and clear as cryfhal, which, confidering the vast quantities of fish on its coafts, might render it an invaluable acquisition to an induftrious nation. The pearl-fithery on its coafts, and its interior mines of gold, might also supply materials for a profitable commerce. The chief town of California is St. Juan; and the number of its inhabitants has been estimated at 300,000; but every calculation of this kind must be very vague and uncertain. For a further account of this country, and of the western countiy of North America, fee New Albion, Sec also Francois, Francesco. Fur-trade, Monterrey, Nootka, Norfolk Sound, &c. Marchard's Voyage by Fleuret, vol. i. La Pereforest's Voyage, vol. i. and ii.

California, gulf of, called alfo purple, f. white, or red fett, seems to be an effuary of two large rivers, and separates California in part from Mexico. The coafts of the peninusla, towards this gulf, are covered with inhabited iflands; as fuch as thofe of St. Clement, Penas, St. Anne of Cedral, fo called from the number of thofe trees of a large size which it produces, St. Joseph, and a multitude of others. But the iflands well known are three lying off cape St. Lucas, towards the Mexican coaft, which are called Les Trez Marias, or the "Three Marias." These are small, but fupply good wood and water, falt-pits, and abundance of game; and therefore the English and French pirates have fometimes wintered there, when they have been bound on cruifes in the South feas. CALIGA; in Roman Antiquity, was the proper foldier's shoe, made in the fandal fashion, without upper leather to cover the superior part of the foot, though otherwise reaching to the middle of the leg, and felled with thongs. The fole of the caliga was of wood, like the Sabot of the French peafants, and its bottom ftruck full of nails; which cliavi are fuppofed to have been very long in the fhoes of the fcouts and fentinels; whence these were called by way of diminution, "caliga speculatoria"; as if by mounting the wearer to a higher pitch, they gave a greater advantage to the ftight: though others will have the "caliga speculatoria" to have been made foft and woolly, to prevent their making a noise. Phil. Nat. Hist. lib. ix. cap. 13. lib. xxi. cap. 14. Hard. Suet. in Calig. cap. 9. and cap. 52.

From these caliga it was that the emperor Caligula took his name, as having been born in the army, and afterwards bred up in the habit of a common foldier; hence called "Caligatus."

A fort of caliga was alfo worn by monks and bishops, when they celebrated mass pontifically. Du Cange.

St. Jerome (Ad Ennochium, de Cult. Virg. t. 1. p. 140.) ufs the word "caliga" to exprefs that covering for the feet which Chrift forbade his disciples to wear, when he fent them to preach the gospel in his life-time, and which is oppofed to "sandals," Mar. vi. 9.; though St. Jerome, in the impetuofity of his zeal, fuppofes the apoftles to have walked at times absolutely barefoot. These caliga then feem to mean bucklefs, or rather flat boots, designed to cover the feet fo entirely, as to guard them, as well as the lower part of the leg, from injury by ftones, thorns, &c.: whereas fandalis confined merely of foles at the bottom of the feet, falled by leathern thongs, which left the foot very much uncovered, and expoed to injuries. St. Jerome annexes to thefe "caliga" the epithet "late," broad, which does not feem to be appropriate; and, therefore, fome have fuppofed a corruption in the present reading of late for fuses, yellow; and this is the colour of the leather of which the Arabs make their boots.

CALIGATI, an appellation given by fome ancient writers to the common foldiers in the Roman armies, by reafon of the caliga which they wore.

The caliga was the badge, or symbol of a foldier; whence to take away the caliga and belt, imported a difmiffion or cafhiering.

CALIGINOSUS, in Entomology, a species of Callus that inhabits America, the colour of which is black; thorax square and smooth; antennae pitchen. Fabr. &c. Off. This infift is further diftinguifhed by having two impreffed dots on the head.

CALIGO, or Caligatio, in Medicine, an opaqueness, or cloudinefs of the anterior furface of the crystalline, caufing a dimnefs or fuffifion of light. The caligo is the fame with what the Greeks call σκέπακα, avsphs.

CALIGULA, Callus Caesar, in Biography, the fourth Roman emperor, was the fon of Germanicus and Agrippina, born A.U.C. 75, A.D. 12; and derived his furname from "caliga," a kind of military boot, which he wore in conformity to thofe of the common foldiers, and with a view of engaging their affections. At an early period he was a complete mater of difmiffion; he concealed his natural feri- city under an afcribed modesty; nor did he manifest any figns of forrow or resentment, when his mother was condemned, and his brothers were exiled and imprifoned. In his 20th year he was the favorite of the people from the refpect they entertained for the memory of his father; and on this account he was hated by Tiberius. Of this he was very aware; and, therefore, during his adherence with him at Capre, he had recourse to every art for vanquifhing the prejudice which the emperor had conceived again him, and for conciliating his favour. With this view he studied the tales, the humours, the language, and even the tone of voice of Tiberius, changing, as occasions feemed to require, both his countenance and condict, in order to fix his attach-
As regard the power of Sisensus, who had funk in the disposition of Tiberius, and whom he determined to differ, he resolved to advance his obsequious grandson; and having allowed him to assume the "toga virilis," he invited him with the dignity of pontiff, and instigated to the Senate by design of appointing him his successor to the empire. Tiberius, however, well knew the natural ferociousness of his temper; but he hop'd that his passion for music and dance, as well as the debauchery to which he was add'd, would be the means of softening his savage disposition. His hopes indeed were delusive; and he therefore secured the triumphs he would commit, and called him a public poll, that lived to plague him and mankind. To this purpose he described him as "a serpent that would be fatal to the Romans, and a Phaeton that would set fire to the universe."

In a conversation about Sylla, when young Caius ridiculed his character, Tiberius, whose natural penetration led him into a thorough acquaintance with his character, observed to him; "You will have all Sylla's vices, and not one of his virtues." And, on another occasion, when he had his two grandsons before him, he embraced Gemellus, with tears in his eyes, and said to Caius, whose countenance manifested displeasure, "You will slay him, and another shall slay you."

The first wife of Caius was Claudia, the daughter of Marcus Silanus, a senator of distinction; but his chicanery in his youth was such, that he was detected by his grandmother Anna, in scandalous familiarity with his own father-in-law. Upon the death of Claudia, he intrigued with Ennia, the wife of Macro the pretorian prefect, who conversed in this infamous behaviour, and, in consequence of it, affrighted him by his influence in fearing the succession. Although Tiberius, notwithstanding his declared intention, hesitated about the appointment of a successor, information, that he is said by will to have joined with Caius his other grandson Tiberius Gemellus, as co-heir; Caius was acknowledged and proclaimed emperor immediately on the death of his grandfather by the pretorian guards, and Macro was sent to the senate with Tiberius's will in order to have it annulled. In order to accomplish this purpose, he represented, on the part of Caius, that Tiberius was not found in his understanding when he made it, and that this plainly appeared by his appointing a child to govern them, who was not yet old enough to be among them. The senators who hated Tiberius thought these reasons sufficient, and accordingly set aside the will. This event happened A. D. 790, A.D. 37. The sequel of this reign was marked with a variety of transactions, which indicated absolute inconstancy. At its commencement, indeed, it was the occasion of universal joy and congratulation; so that in three months after the accession of Caius to the empire, no less than 160,000 victims were sacrificed in thanksgiving to the gods; and nothing was seen for several months but feasting and rejoicing through the whole extent of the Roman empire. Caius began his reign by several popular acts, which seemed to encourage these high expectations. He professed great respect for the senate, released all that had been imprisoned by the orders of Tiberius, recalled all exiles, abolished for the time to come all accretions of high treason, and put a stop to all proceedings that had already began. He pretended to burn all papers relating to charges of this kind, left by Tiberius; but in the issue it appeared, that, whilst he preserved the originals, he burnt only copies. He also displayed a pious and affectionate respect to the memory of all his deceased relations, and treated those who survived with every token of honour. He discharged all the legacies that had been bequeathed by Tiberius and Livia; and exhibited his generosity, as it was called, in largesse to the people, and public spectacles which were conducted with extraordinary splendour and magnificence. He even affected a regard for liberty, by retorting to the people the right of election to certain offices of which Tiberius had deprived them, and by allowing the works of several patriotic writers to be freely circulated; and with a pretended zeal for morals, he banished all the ministers of the infamous debaucheries of his predecessor. This conduct was in a high degree gratifying to the people; and a dangerous illiberal, with which the emperor was attacked at this period, caused general alarm and produced expressions of concern and wishes for his recovery. As soon as he was restored to his usual health, his conduct appeared to be quite changed, and to mark a character the in it deprived and detestable. The first act by which he discovered his natural ferocity was the death of the young and inoffensive Gemellus; and this was soon succeeded by that of his father-in-law Silanus, and of his benefactors Macro and his wife. Many senators and persons of distinction were also sacrificed to his political jealousy; and others became victims to the mere wantonness of sport, or his innate love of cruelty. Of his inexcusable passion he gave proof by marrying his sister Drusilla, on occasion of whose death he abandoned himself to the perversity of grief. As an instance of his infamy, we may mention his claim of divine honours, together with his institution of priests and erection of temples for the worship of his own divinity; whilst he harried defiance against Jupiter. Similar to this and more extravagant in degree was the honour he paid to his horse "Incitatus," for which he erected a palace, affignd domus, and a public table, and constructed a marble stable and ivory rack, giving him gilt barley and wine out of a golden cup, and swathing by his health and fortune; and, besides, he is said to have designed him for confut. He married and repudiated several wives, and at length his attachment was permanently fixed to Caelonia, who, without youth and beauty, and although she had been the mother of three children by another husband, contrived to engage his affections by a corresponding disdependence of manners. Notwithstanding innumerable enormities, which rendered him the just object of detestation, and for which the only plea might be that of inconstancy, the Roman senate and people disgraced themselves by their base adulation and servile submission. Such was the degree of infatuation and depravity which this monster of folly and iniquity displayed on a variety of occasions, that he seemed to have lost all sense of shame; and to have manifested, without disgrace, his hatred of all human kind. He even lamented that his reign was not distinguished by any of those public calamities, which had happened under his predecessors; and he openly uttered that most execrable with "that the Roman people had but a single neck, which he might cut off at a blow."

His public transactions corresponded in the main tenor of them with his private conduct. In the situation of Xerxes, the eastern despot, he causted to be built, at an immense expence, a bridge of boats across the neck of the bay from Baite to Puteoli. When he had twice triumphantly passed it at the head of his troops, the whole structure was demolished. Resolving on an expedition into Gaul and Germany, he assembled a large army; but having passed the Rhine, and marched a few miles into Germany, he hastily returned, and under an apprehension of danger, which was altogether unfounded, he was conveyed over the heads of the crowd that covered the bridge, and thus reached the other side in safety. On another occasion he caused his troops to found a false alarm, and halfing to the forest from which the noise proceeded...
receded, he employed his men in cutting down trees for erecting trophies on account of his signal victory. After his return he oppressed the province of Gaul with enormous exactions and confiscations, in order to fill his exhausted treasuries. In a pretended expedition against Britain, he marched his whole army to the coast opposite to the island, and having advanced in a magnificent galley to a small distance from the shore, he suddenly returned and ordered a signal of battle to be given; after which the soldiers, who were all loaded at this farce, were directed to fill their helmets with cockle-shells; and the whole ended in a tifling donation to the victorious troops. This folly was succeeded by a very ferocious design of cruelty, which was that of massacring or at least of decimating all the legions of the German army, which had mutinied, in his infancy, against his father Germanicus; but the legionaries, suspecting his intention, took up their arms; and the savage eddy hurried to Rome, and wreaked his vengeance on the paltry nation. His natural ferocity was exasperated by the discovery of a plot, which had been formed against him, for which many persons suffered death, and his murderers were banished and deposed of their property. At length he seems to have relapsed upon the death of the whole senate and principal knights; but his designs were rendered abortive by the resistance of Caligus Cherea, tribune of a pretorian cohort, whom the emperor had made the dupe of his infant agents, and who, it seems, determined to dispatch the monster, and to make an effort for the restoration of a free government. Availing himself of the concurrence of some persons of superior rank, who had been infested and injured by the emperor, a conspiracy was formed, in which Cherea was the principal agent. The games annually exhibited in January to the honour of Augustus were chosen for the scene of execution. While the emperor was passing from the theatre to the palace, in a gallery leading to the baths, Cherea gave him a wound in the neck. The other conspirators then rushed on, and with redoubled blows dispatched the monster, in whose defence no perfon appeared. His mangled body remained on the spot till night, when his wife, or his friend, king Agrrippa, caufed it, half burnt, to be deposited in the earth. In order completely to finish the race of the tyrant, Cherea deputed an officer to put to death his wife Caefonia, and his infant daughter, who was left to redeem her father in ferocity. An universal hatred of the tyrant manifested itself immediately after his death. His statues were demolished, his acts abrogated, and his memory as much as possible extinguished. After a reign of three years and ten months, A. D. 41, Caligula perished, and left behind him a character universally detested. It is said that his form, countenance, gesture, and manner, exhibited traces that were shocking and portentous. Deficiency of natural talents and education, he marred with some degree of diligence to the study of eloquence; but his chief attention was directed to the arts of music, dancing, gladiatorial exercises, and public spectacles. He was capricious and mutable to a degree bordering on madness; and was constant only in preferring some form of vice or extravagance. Sceva observes of him, "that he seems to have been brought forth by nature for the express purpose of showing how much mischiefs could be effected by the greatest depravity, supported by the highest power." Sueton. Dio Calig. Crevier. Gen. Biol.

CALIGUS AERATUS, in Entymology, the name by which Müller distinguishes the species of Monoculus. Piscivorus. The Caligis of this writer confifl of those Monoculi which have the eyes marginal, two fætaceous antennæ, and from eight to ten legs.

CALILAYA, or TAYALAS, in Geogrphy, a province of the island Luzon or Manila in the East Indies, adjoining to Buhay and Cararina, and extending to Bajawa and Boracay, and up the country to Mindanao, on the opposite coast of the island. It is larger than Buhay and is more populous.

CALIMERE. See CALIMINE. CALIMINE. See CALIMERE. CALINER, the name of a sort of mixed metal, seemingly composed of lead and tin. It is prepared by the Chaldees, and they make several utensils of it: a teapot, hammer, coffypot, and the like. In force places also they cover their houses with it, as we do with lead.

CALINACRON, in Ancient Geography, a promontory of Bithynia, at a small distance from the Paruseus. It was called into Mélena.

CALINDA, or CALUNIA, a maritime town of Asia Minor, in Caria; situated on a small navigable river at a small distance from the sea. It gave name to mountains situated on the N.W. of the town.

CALINDIA, a town of Macedonia, in Mygdonia. Also a town of India, on this side of the Ganges. Problem.


CALINGE, in Ancient Geography, a people of India, on the north-west coast, on this side of the Ganges, mentioned by Pliny and pertaining to the Aborigines.

CALINGA, Cangrash, a people of India, different from the former, on this side of the Ganges, whose capital was Parthia. Pliny.

CALINGAPATAM, in Geography, a town of Hindoostan, in the circuit of Cicclee, 12 miles E.N.E. of Cicclee. N. lat. 19° 15'. E. long. 83° 20'.

CALINGHI, in Ancient Geography, a people of Arabia Felix, whose capital was Manabia. Pliny.

CALINGON, Seguara or Ponta de Palmeiras, a promontory of India, on this side of the Ganges, S.W. of the most westerly mouth of the Ganges, on the confines of the country of the Calinge. Pliny places it at 245 miles from the mouth of the Ganges.

CALINI, or Calusvuddi, in Geography, a river of Hindoostan, which joins the Ganges near Canoge.

CALINIPAXA, in Ancient Geography, a town of India, on this side of the Ganges, mentioned by Pliny, and probably the same with Canoge, which fee.

CALONG-CAMPANY, in Geography, a town of the island of Borneo.

CALIORDI, in Ancient Geography, a people of the Tanar Charonda. Pliny.

CALPHI, or Kalm, denotes a successor of Mahomet, vested with sovereign dignity and absolute authority, in the spiritual as well as temporal empire erected by that legislator. The word is originally Arabic, 'Kalif,' which properly signifies a successor or vice. The caliphs among the Mahometans bear a near affinity to the popes among the Chrislians who profess the catholic religion. After the death of Mahomet, who left no directions concerning a successor, or at least none but which were known to his wives, who were in the interest of Omm, very warm debates arose between the Mahanjeen and the Abirsers about the right of electing a kalif. The former claimed that right from their having attended Mahomet in his flight to Medina, and from having declared themselves in his favour before any of the other Arabs joined him; but the latter...
founded their claims on their having supported him, when he was expelled his native city, and in their having enabled him to prevail against his enemies, when he and his followers were in a state of persecution. At length one of the Anfars proposed to compromise this difference by requesting that each of the contending parties might be allowed to choose a khilaf. The proposal, however, was not cordially approved by the Mohajerin; and Abubeker recommended two persons, Omar Ibn Al Khattab and Abu Obeidah, to their choice, and proposed that they should recognize the one of these two persons who obtained the suffrages of both parties. Omar, however, terminated the dispute by swearing fealty to Abubaker, and his example was followed by all the molesms that were present; upon which, Abubaker was elected khilaf by both the Mohajerin and the Anfars, and acknowledged as rightful successor of Mahomet. Abubaker, having been thus elected by the Muharmans, would assume no other title but that of Abubaker nisf Allah, that is, vicar of the prophet, or messenger of God. But Omar, who succeeded Abubaker, represented to the Mahometan chiefs, that if he took the quality of vicar, or successor of Abubaker, the vicar or successor of the prophet, the appellation of vicar would, in course of time, be repeated and multiplied without end; and, accordingly, at the motion of Mokarib, Omar assumed the title of Emir al Mowmain, that is, lord or prince of the believers; which appellation has been accepted and borne by all the legitimate caliphs or successors of Mahomet, from that time; though they still retained the title of caliph, without any other addition.

After the election of Abubaker, Ali Ibn Abu Taleb, who, by hereditary right, ought to have succeeded Mahomet, expressed his dissatisfaction at the choice; but finding that the people in general were pleased in his favour, he acquiesced and opposed his resignation of the government. The Schithas, however, maintain, that the supreme authority, both in spiritual and temporal concerns, rightfully belonged to the descendants of Ali, and they do not acknowledge the three first successors of Mahomet, viz. Abubaker, Omar, and Othman, as legitimate. The government of Abubaker commenced in the year of the hégira 11, A.D. 622; and terminated A.D. 634; when he was succeeded in the regal and pontifical dignity by Omar. This caliph, before his decease, appointed 5 persons to deliberate concerning the election of a successor; all of whom had been intimately acquainted with Mahomet, and were exalted, by way of eminence, his "Companions." After his death they assembled for the choice of a new caliph: and Abdallrahman renounced his pretensions on condition of being allowed to nominate one of the 5 remaining companions as emperor of the faithful. To this proposal all agreed except Ali, who thought himself injured, because he was not the immediate successor of the prophet; and Othman was declared caliph, in the 22d year of the hégira, A.D. 644. Upon the death of Othman, Ali was unanimously elected to succeed him, in the 35th year of the hégira, A.D. 655. The feat of government during the 3 preceding caliphates had remained fixed at Medina from the death of Mahomet; but Ali removed it to Cufa. Ali was succeeded in the caliphate by his son Hafan in the 40th year of the hégira, A.D. 666; but after a reign of about six months, he abdicated the government, and was succeeded in the 41st year of the hégira, A.D. 667, by Moaiyiah I. the first caliph of the house of Ommayah; who transferred the seat of government to Damascus in Syria. The race of Omahydeas terminated with Mawwa II. in the 257th year of the hégira, A.D. 744; and was succeeded by the Abasphides. The first caliph of this family was Abul Abbas al Saffah, who ascended the throne of the Moflems in the 124d year of the hégira, A.D. 749, and who removed the seat of government from Cufa, to Anbar, a city on the confines of Chaldes and Arabia, and last of all to Hafcheniyah a city built by himself near the Euphrates, not far from Anbar, and so denominated in honour of Hafchen, uncle of Mahomet, and one of his ancestors; and from this circumstance the Abasphides obtained the appellation of Hafchmantes. Abul Abbas was succeeded by his brother Abu Jaafar al Manfar, who was proclaimed caliph in the imperial city of Anbar, then the capital of the Moflem empire, in the 138th year of the hégira, A.D. 754. He built the city of Bagdad, which afterwards became the customary residence of the Abbaside caliphs, his successors. This race terminated with Al Mo'ta'lem Billah, who was put to death by the Tartars, in the year of the hégira 656, A.D. 1258, when they captured the city of Bagdad.

At the end of the first century of the hégira, about A.D. 718, the caliphs were the most potent and absolute monarchs of the globe. Their prerogative was not circumscribed, either in right or in fact, by the power of the nobles, the freedom of the commons, the privileges of the church, the votes of a senate, or the memory of a free constitution. The regal and facerotal characters were united in these successors of Mahomet; and the Koran was the rule of their actions. They were the supreme judges and interpreters of that book held to be divine. They reigned by the right of conquest over the nations of the earth, to whom the name of liberty was unknown, and who were accustomed to applaud in their tyrants the acts of violence and severity, that were executed at their own expense. Under the fall of the Omamides, the Arabian empire extended 200 days' journey from east to west, from the confines of Tartary and India to the shores of the Atlantic Ocean. And if we retrace the sleeve of the robe, as the long and narrow province of Africa was fyled by their writers, the solid and compact dominion from Fargana to Aden, from Turfan to Sura, will spread on every side to the measufe of 4 or 5 months of the march of a caravan. Under the reign of the Omamides, the studies of the Moflems were confined to the interpretation of the Koran, and the eloquence and poetry of their native tongue. But the caliphs of the race of Abasphides, after their civil and doméstic wars, encouraged literature and science. See ALMAHON and ALMAHANOR.

After the period of the destruction of the caliphate by the capture of Bagdad, there were persons who claimed the caliphate, under a pretence of belonging to the family of the Abasphides, and to whom the sultans of Egypt paid great respect at Cairo, as the true successors of Mahomet; but this honour was merely titular, and the rights they claimed were only acknowledged in the province of religion; and though they bore the title of caliphs, they were nevertheless subjects, and dependents of the Sultans. In the year of the hégira 361, A.D. 971, a kind of caliphate was erected by the Fatimites in Africa and Egypt, and revolted till Saladin suppressed it by order of Troureddin, sultan of Syria. There was also a caliphate in Africa and Spain, which commenced under the reign of Josef. Historians also speak of a caliphate in Yemen or Arabia Felix, established by some princes of the race of the Anabouites, or Jobites. The emperors of Morocco assume the title of "grand chers" and pretend to be the true caliphs, or successors of Mahomet, though under another name. Since the
the destruction of the caliphate, the Mahometan princes have a particular officer appointed in their respective dominions, who sustains the hereditary authority of caliph. In Turkey he is denominated Mufti, and in Persia Sadie.

One of the principal functions of the caliph, in quality of Imam or chief priest of the Mahometan religion, was that of beginning the public prayers every Friday in the chief mosque, and of delivering the kotobah, which was a kind of sermon. In later times they had deputies or officials who performed the second service; but the first was always appropriated to the caliph in person. He was also obliged to conduct the pilgrims to Mecca, and to march at the head of the armies of his empire. The caliphs also granted letters-patent of investiture, as well as froward, standards, robes, &c. to the Mahometan princes, who, though they had thrown off the yoke of the caliphate, nevertheless held of it as vassals.

The caliphs usually went to the mosques mounted on mules; and the sultans Seljucides, although masters of Egypt, held their litters, and led their mules by the bridle for some distance on foot, till such time as they received intimations from the caliphs to mount on horseback. At one of the windows of the caliph’s palace, there always hung a piece of black velvet, 20 cubits long, which reached to the ground, and was called the “caliph’s sleeve;” and the grandees of his court never failed to kiss it with great respect every day. The honours paid to the caliphs were exorbitant, and produced in them a degree of pride, of which they did not attempt to exhibit tokens, even when their authority had declined and was reduced to its lowest state of degradation. In the period of their power, they affected very extraordinary magnificence and splendour. Abulfaragius relates, that the caliph Motzam had 700 women in his harem, and 300 eunuchs to guard them. But this splendour was much diminished, and, indeed, almost annihilated during the reign of the Bouides in Persia, who stripped them of every thing, depriving them of their viands, and allowing them to retain no officer of higher rank than a secretary to take care of their affairs. At length, and particularly under the reign of Radi Bilbah, the 25th caliph of the Abassides, A.D. 924, the territories of the Mahometan empire were so dismembered and divided, that this caliph was reduced to the sole dignity of the caliphate, and the possession of the city of Bagdad. But Baffora, Vafith, and Alouass, were under the dominion of the Bouides. They occupied the whole of Peria; the Hamadanites reigned in Mosul and Mesopotamia; Alkheid was master of Egypt and Syria; the Fatimites possessed Africa; the Omnipredes governed Spain; the Samanides had Khorasan; the Cannatha were in possession of Persia, and, moreover, the Dilemites were the sovereigns of Georgia and Tabidian. Such was the state of the caliphate in the 335th year of the hegira, A.D. 936. After the Bouides made themselves masters of Bagdad, they were reduced to the mere exercise of the functions of the mosque; and these princes advanced or dethroned them at their pleasure. At length, the period of their total overthrow by the Tartars, under the caliphate of Motzam, arrived, as we have already related; and their temporal power became extinct. Herbelot, Bib. Or. Gibbon’s Hist. vols. ix. x. xi. Mod. Uni. Hist. vols. i. ii. iii.

CALIFOS, or CALIF, in Ancient Geography, Sadus, a river of Lusitania, which rove to the south of the mountains on the northern boundary of Cuncus, and running northwards, watered the town of Salaria, and then turning to the west, discharged itself into the sea.

CALIPPIA, an island of the Aegian Sea. Anton. Marit. R. T.

CALIPPIC period, in Chronology, a series of seventy-six years, perpetually recurring; which elapsed, the middle of the new and full moons, as its inventor Calippus, an Athenian, imagined, returns the same day of the solar year.

Meton, a hundred years before, had invented the period, or cycle, of nineteen years (see Metonic Cycle); assuming the quantity of the solar year 365.256.5; and the lunar month 27'.3. The period, or cycle, of nineteen years, was not exact, but only a period of 76 years, called the Calippic.

At the end of this term it was necessary to retrench a day: so that his period was composed of four of those of Meton, three of which consisted of 6940 days each, and one of 6939 days. For this purpose, it was sufficient to change in the revolution of four periods one of the months from 30 to 29 days. The effect of this correction was to retard the anticipation of the new moons for more than 300 years, and at the same time to render the whole period more correspondent to the motion of the sun. The Calippic period, therefore, or the interval of four Metonic or lunar cycles, diminished by a day, contains 27535 days, and since the lunar cycle contains 2739.5 lunations, and the Calippic period is quadruple of this, it contains 9460 lunations, equalling of about 27753 days 18' 9", and 67 revolutions of the sun compose a term of about 27738 days 10' 4". The Calippic period began in the third year of the 112th olympiad, or the 438th of the Julian period, B.C. 355, the 7th year of the 10th Metonic cycle. It is demonstrated, however, that the Calippic period itself is not accurate; that it does not bring the new and full moons precisely to their places: 8' 5' 52" 65", being the excess of 910 lunations above 76 solar years; but brings them too late, by a whole day, in 225 years.

This period was adapted by astronomers, and is frequently mentioned by Ptolemy. It corresponds to our lunar cycle, combined with our Julian years, 76 of which form the Calippic period; and the anticipation of the moon is the same in both. This anticipation, together with that of the equinoxes, gave rise to the reformation of the calendar, A.D. 1582. See Calendar. The ancients were not unacquainted with the doctrine of the Calippic period; at least, it did not escape the penetrating faculty of Hipparchus, who undertook to correct it. His observations led him to perceive, that the solar and lunar years were somewhat less than Calippus had supposed them to be, and pursuing his calculation, which he conceived to be sufficiently exact with regard to the moon, but more erroneous with respect to the sun, he found that the anticipation of the one and of the other was about a day in four periods. He therefore quadrupled the cycle of Calippus, and retrenched from it the day which he had found in excess during four revolutions. This new period had the advantage of corresponding more exactly with the motion of the moon, which was not retarded more than half an hour in 304 years. But it anticipated the motion of the sun about a day and a quarter, which was an error only equal to that of Calippus in a double interval. However, this invention shored the fate of many others, no less useful and able neglected. The Greeks, accustomed to the cycles of Meton and of Calippus, disregarded that of Hipparchus, although it was more perfect.

CALISIA, in Ancient Geography, a town placed by Ptolemy in the easter part of Germany, and supposed by Cluver to be Kilch in Poland.

CALISPERNUM, in Botany, (καλισπέρνοα, beautiful, and
CAL

C A L

S. feed.) Bosc. Nouv. dict. Louvain, Cochlin. Clafs

C. Or. Coq. with live equal divisions, permanent.

C. Pet. five, ovate, concave. Starum five. Pity. germ

C. Bery nearly round, one-celled, many-seeded.

C. Conch. five-petalled. Berry one-celled, many-see.

Species. Calispermum familiar. A climbing shrub. Leaves alternate, ovate, lanceolate, scolloped, smooth, yellow white, in nearly terminal racemes. A native of Cochlin and Willet, but not having Dr. Smith's work at hand, have not the means of ascertaining, that

Locality, 1614, effential As

Peiic. mortal

P. calispermum

PALPHORE

A certain, in Ancient Geography, a people of India on the other side of the Ganges. Play.

CALISTA, in Anthology Hist., the daughter of Ly-

cam, king of Arcadia, and one of the nymphs of Dana.

Bearing beloved by Jupiter, he assumed the form of the god-

ess of chastity, and thus debauched her; but whilst she

was nursing with her paramour, his disgrace was revealed,

and the incensed deity converted her and the son with whom

she was pregnant into bears; upon which Jupiter, as the

fable reports, commissariating her sufferings, took them up

into the heavens, and made them the constellations Ursa Ma-

jor, and Ursa Minor.

CALISTE, in Conchology, a species of Venus,

the shell of which is bifit with acute transverse dries, becoming

membraneous in front; anterior flaps short, and the posterior

epitrans inconspicuous. Genel. Schreher. &c. inhabits the

Red Sea.

CALITE, in Ancient Geography, a people of Africa in

interior Libya. Play.

CALITOOR, in Geography. See CALITU.

CALITUR, in Ancient Geography, an island in

peaced by Ptolemy on this side of the Ganges.

CALIT. See CALIS and CHAS.

CALITUS, in Ecclesiastical History, a name given to

those among the Lutherns, who follow the sentiments of

George Calista, a celebrated Luthern divine, who was

born near Slewick in Holstein, in 1566; and having

studied at most of the protestant schools in Germany, was made

professor of theology at Helmildt in 1614, where he died

in 1656. He was distinguished by his zeal for forming an

union between the Romish, Lutheran, and Reformed

churches, and, at least, for joining them in the bonds of

mutual forbearance and charity. Calista was the first

reformed theology into a regular system, and gave it a

truly scientific and philosophical form. As he had imbied

the spirit of the Aristotelian school, he arranged the sub-

stance of Christianity according to the method of the Stag-

rites, and divided the whole science of divinity into three

parts, viz. the end, the subject, and the means. He was

also the first who separated the objects of faith from the de-

sires of morality, and exhibited the latter under the form of

an independent science. These innovations rendered him

the object of much cenrifice and opposition. In his attempt

to unite the several bodies of Chrissians, and to compromise

the different churches in one profession of religion, he was

a principal promoter of that system, which was called

yneterism. See SYNERGETICS.

The controversy which was thus occasioned, filled his af-2

and, though he found, in his efforts for comprehension, to
give advantage to the Romish church, no one attacked its

principle and corruption with greater vigour. He was the

author of many works, which it is now needful to enumerate,

Mosheim, Eccle. Hist. vol. v.

The Calistus are esteemed a kind of semi-Pelagians.

Calitutus also denote a fel in Bohemia, derived from

the Hebrews, in the fifteenth century, A.D. 1470, who

affected the use of the cup as essential to the eucharist.

And hence their name; which is formed from the Latin calis,

a cup.

The Calistus are not ranked by Romans as in the list of

heretics, since in the main they still adhered to the doctrine

of Rome. The reformation they aimed at terminated in the

four following articles.

1. That the word of God should be explained to the people

in a plain and perspicuous manner, without the mixture of

superficial comments or inventions.

2. That the sacrament of the Lord's supper should be administered in both

kinds.

3. That the clergy, instead of employing their attention and zeal in the acquisition of riches and power, should turn their thoughts to objects more fit to their profession, and be ambitious of living and acting as became the successors of the holy apostles.

4. That transgressions of a more heinous kind, or "mortal sins," should be punished in a manner suitable to their enormity.

In the two great factions of Calistus and Taborites, into which the multitude was divided, there were some subordinate sects, who differed in several other points. Mosheim, Eccle. Hist. vol. iii. See Taborites.

CALIXTUS, G. See CALIXTINS.

CALI YUG, in the Astronomer of the Hindoos, a period of time.

The commencement of which forms an epoch, in which the planets were supposed to have been in a line of mean conjunction, in the beginning of Aries. The Cali

yug is supposed to have begun 3175 years before the commencement of the Christian era, or 3175 years before the

year of Christ's birth; or at the instant of midnight, be-

tween Thursday the 17th, and Friday the 18th of Febru-

ary, O.S. in the year of the Julian period 1612, when the

planets were supposed to have had this aspect on the merid-

ian of Lanka, about 75° 50' E. of Greenwich; and the

epoch founded on its commencement appears to have been

fixed on by Varaha, the reputed author of the Surya Sidd-

anta, and some other Hindu astronomers since his time;

for though the planets were not then actually in a line of

mean conjunction, yet, the differences between their re-

spective positions, and that which was assumed, when di-

vided among the years expired from that epoch to the time

of Varaha, were considered as too small to cause any con-

siderable difference between the mean annual motions, and

doing which it would be necessary to assume, so as to give

the positions of the planets at that time, or even to cause

any sensible error in their computed places deduced from

them for many years. For a farther account of this astro-

nomical cycle, and its application to the Hindu chronology,

see Bentley on the Antiquity of the Surya Siddanta, in the

Ariatic Researches, vol. vi. p. 540. See also

SURYA SIDDANTA.

CALKA, in Geography. See KALKA.
CALLING, or Caulkins, in Sea-Language, &c. See Causing.

Calking, in Painting. See Calking.

CALKINS, or Caulkins, a part prominent from a horse-shoe, intended to secure the healt from flying. The calkins are the end or extremity of horse-shoes, turned or bent downwards, and forged to a foot of point, to make the hoof step more safe and steady on the ice. The inconvenience of calkins is, that they hinder the horse from treading evenly on the ground, and thus occasion wreathes on the foot, or drawing in the fines: especially in heavy ways, where the horsefeet of the bottom will not suffer the calkins to penetrate: besides, they are apt to make a horse cut.

Calkins are either single or double, i. e. at one end of the shoe, or at both: the latter are reputed less hurtful, as they allow the creature to tread more even; some are made large and square; the ball are in form of the point of a hare's ear.

CALK or Calf, means the noise or cry of a bird, especially to its young, or its mate in erupting time.

The call of a bird, says the hon. Disraelo Barrington, in his Experiments, &c. on the Singing of Birds (Phil Trans. vol. liv. p. 290), is that which is used when about a month old: it is, he says, in many instances, a repetition of one and the same note, is retained by the bird as long as it lives, and is common, generally, both to the cock and hen.

One method of catching partridges, is by the natural call of a hen trained for the purpose, which drawing the cock to her, gives opportunity for entangling them in a net.

Calls are also a sort of artificial pipes, made to catch several sorts of birds, by imitating their notes. Different birds require different sorts of artificial calls; but they are most of them composed of a pipe or reed, with a little heathen bag or purse, somewhat in form of a hollow, which, by the motion given thereto, yields a noise like that of the species of bird to be taken. The call for partridges is formed like a boot, bared through, and fitted with a pipe, or swan's quill, &c. to be blown with the mouth, to make the noise of the cock partridge, which is very different from the call of the hen. Calls for quails, &c. are made of a heathen purse in shape like a pear, stuffed with horse hair, and fitted at the end with the bone of a cat's hare's, or coyn's legs, formed like a flageolet: they are played by squeezing the purse in the palm of the hand, at the same time striking on the flageolet part with the thumb to counterfeit the call of the hen quail.

In some countries hares are very numerous, and from May until August are taken with a call, which entices them within a proper distance of the sportsman. This call is a squeaking sound, first low and then quicker, and is supposed to resemble the call between the male and the female. In the country about Naples, where this practice obtains, both hares and partridges are so tame, that they will run under the carriage-wheels.

CALL, in Hunting, signifies a lesion blown upon the horn, to comfort the hounds.

CALL, in Mineralogy, an English name for the mineral called Tunflin, or Wolfram, by the Germans.

CAl, in Sea language, a sort of whistle or pipe, of silver or brass, used by the boatwain and his mates to summon the sailors to their duty, and direct them in their several employments. It is founded to various strains, adapted to the different exercises, as hoisting, heaving, &c. and the piping of it serves the same purposes among sailors, as the beat of the drum among soldiers.

CALL, in Hunting, a word used in a parliamentary sense, to discover whether there be any in the house not returned by the clerk of the crown; but more frequently to discover what members are absent without leave of the house, or till called.

In the former case, the names of the members being called over, every person answers to his name, and departs out of the house, in the order where he is called. In the latter, each person stands up uncovered, at the mention of his name.

CALL, in Botany, (derived, according to some authors, from capo, heavy; but profusor Martyn says, from calamus, the wattle of a cock; the same occurs in Paris.) Lin. gen. 1230. Schreb. 1358. Gent. 522. Jull. p. 24. Vért. vol. II. p. 35. (Provenza.) Ch. and other greenish-plyamindia, Linnaeus, monocotyledonaria, Schub. plantae polyandria, Dr. Smith, as appears from his remarks on Arum in his Flora Britannica, and English Botany. Nat. ord. piperaceae, Lan. Arch. July and Ventenat.

Gen. ch. Cal. spathe one-leaved, acuminate, spreading, permanent; spadix simple, erect, covered with frutifications. Cor. none. Stam. either placed above or intermingled with the pistils; anthers filiform, truncate. Pet. germ roundish obtuse; styli simple, very short; stigma acut; with several permanent, compressed, truncate filaments intermixed with the germs. Peric. berry tetragonal-globular, one-celled (many celled, Gersd.); seeds from six to twelve, erect, cylindrical, obtuse at both ends.


Sp. 1. C. eliptica, Lin. Sp. Gartner, Tab. 84. fig. 2. La Marck, PI. 72. fig. 2. (Arum ethiopicum; Comm. hort. I. p. 97. Tab. 30. Arum Africanum; Turner. 159. R. Sp. 56.) "Leaves arrow-heartshaped; spathea cowled; pistils placed above the pistil." Perennial. Root thick, fleshy, with a brown skin, and strong, fleshy fibres. Leaves in clusters from the root, eight or nine inches long, of a shining green, ending in a sharp point, which turns backwards, and pinnules more than a foot long; narrowed, and fleating at their base. Spike longer than the leaves; round, herbaceous, smooth, green. Spathe white, a little fleshy, twisted at the bottom, but spread open at the top, suddenly contracting, and ending in a point. Spadix cylindrical, yellow, about half the length of the spathe. Stigmas above, filaments below set to close together so that they are not easily distinguishable. Seeds roundish, dark brown, smooth, having on the inner side a protuberant, compressed eye extending from the umbilical aperture to the top of the seed. Miller, La Marek, and Gartner. A native of the Cape of Good Hope, first to Commelin in 1687, and cultivated by Mr. Miller in 1731. The flowers from January to May. 2. C. polydorus, Lin. Sp. PI. Flor. dan. Tab. 432. (Draecena) palatini, Bakh. pin. 197. D. aquatica. D. p. 331. R. Hort. 1210. Bork. i.e. 71. Anguina aquatica, L. & C. 602.) "Leaves heart-shaped; spathes flat; pistils and filaments intermingled with each other." Perennial. Root creeping, from six to eighteen inches long, fixing itself to the earth by capillary fibres from its roots, and throwing out leaves and saccas at different distances. Leaves petioled, acuminate, green, smooth, alternately ascending the stem. Spikelets two, bluntish-egg-shaped at the base of the pistillate. Spike round, thick, succulent, smooth, bright green. Spathe roundish-egg-shaped, rolled up at the end into a bluntish spine, yellowish-green below, white and smooth above. Spadix egg-shaped, obtuse. Stigmas white.
Baxter small, four or five-cornered, or round, wrinkled about the edge, smooth, flat, flat at the top, crowned with a short style. "Snete from six to nine, sometimes only from one to three, in a vivid muscade. A native of maries in Holland, Germany, and the whole north of Europe. Its roots are very acid; but Linnaeus informs us, that the Lapplanders extract from them a food of which they make bread. 1. C. orientalis, Linn. Sp. Pl. (Arnau Carfani, Rauw. itn. ii. 112. A. nissus orientalis, Mor. Hort. 3.44. "Leaves egg-shaped." Perennial. Petals long. Stems about six inches high; flower white. A native of the mountains about Aleppo. This species yields entirely on the authority of Rauwolf; and, though admitted by Linnaeus into his Species Plantarum, does not appear in the last edition of his Systema Naturae, and has since been rejected by most of the editors of the Systema Vegetabilium. 2. C. sativa, Mutin's Miller. Louisco Coehlich. 432. "Leaves heart-shaped, flat, with slender peduncles; peduncle about twice as long; flowers with slender peduncles, dilated at the base, embracing the inner ones. Stems long, containing the flowers even in their state of maturity. Spadix oblong. Sigmas concave, tupid, feline. Berry three-lobed, three-angled, yellow, containing many seeds. A native of Cochinchina in moit places. Propagation and Culture. The Æthiopica propagates very fast by offsets, which should be taken off about the end of August, and each planted separately in a pot filled with kitchen-garden earth. They may be kept in the open air till winter, and then should be removed under cover. The plant will live in the open air in mild winters, without any cover, in a warm border and dry soil; and may always be prefered with a little shelter from hard frosts. The paludina must be planted in an artificial bog, or the mud of a pond, or tub fed in water. Miller. CALLA-Syng., in Geography, a town and capital of the island of Bouton, in the Indian sea, celebrated about a mile from the coast, on an eminence surrounded with cocoa-nut trees. It has a good harbour with a rocky bottom. The inhabitants are Mahometans, and speak the Malay language. CALLABASH-BAY, See CALLABASH. CALLAC, a town of France in the department of the North Coasts, and chief place of a canton in the district of Guingamp; 15 leagues N. of Rore. The place contains 1,353, and the canton 10,532 inhabitants; the territory includes 327.5 kilometres, and 9 communes. CALLACALLES, a river of Chili which falls into the South Sea at Baxlia. CALLAF, or CALL, in Botany. (Alpin.] See Salix Ægyptiaca. CALLAH, or GELLAH, in Geography, a town of Africa, in the country of Algiers, 50 miles S. of Dona.-Alfo, a town of Africa, in the country of Algiers; 35 miles W. of Sef. CALLAH, Ez., a town of Africa, in the western province of Algiers, Tlemfan or Tremeen, situate 5 leagues to the N. E. of Mafcar, and 40 miles E. of Oran, on an eminence, as the Arabic name imports, and in the midst of other mountains, which form part of Mount Atlas. It is larger than Mafcar, but a dirty ill-contrived town, without drains, pavement, or causeways. It is the greatest market of this country for carpets and burnoores. There are several villages of the same name, and alike situate round about it, all of which are profitably employed in the same woollen manufactures. The Turks have here a small garrison and citadel; and, from some few large houses and pieces of marble of ancient workmanship, we may infer that it was formerly a city of the Romans; perhaps the "Gitili," or "Apars," of Ptolemy. CALLACI, or CALLICI, in Ancient Geography, a people of Spain, who inhabited the north-western part of the country. Their name seems to have been formed from "Calis," which was that of one of their ports. There were severa different people comprehended under this denomination; such as the Bracarri, Celarierii, Gravii, Simici, Quequerenri, Artabri, and others. Ptolemy divides them into "Callaci Bracarrii," and "Callaci Lucensis." The former extended themselves from the Dourias to the Minis; and the latter from the Minis to Aures. Their principal rivers were the Uia, Minus, and Durius; and their chief towns were Brigantium, Adroicium, Lucas Augusti, Iria Flavia, Tydes, Bracara Augusta, Calle, and Aque Flavia. CALLAN, a mountain in the county of Clare, Ireland, near the Welbed Ocean, remarkable for a large stone or monument, supposd to have an inscription in the Ogham or Osym characters. An account of it may be found in the 11th vol. of the Transactions of the Royal Irish Academy, and in the 7th volume of the Archaeologia; and some remarks on it in Leflitch's Irish Antiquities. CALLANORE, or KILLANORE, a town of Hindoostan, in the county of Lohore, feated on the Rauvee, about E. 30° N. from Lahore, or distant 1,300 miles common coffes, N. lat. 33° 30'. E. long. 74° 40'. CALLAO, a sea-port town of Spanish South America, in Peru, feated on a river of the same name near the Pacific Ocean, and serving as a port to the city of Lima, from which it is distant about 5 miles. The harbour of Callao is the largcst, most beautiful, most convenient, and most secure in the South Sea; and the Spanish government has, at different periods, expended large sums in improving and strengthening it. The largest vessels may lie with perfect safety in the road of this port, as the water is very deep, without rocks, and always tranquil. Two islands, named St. Lawrence and Callao, and the peninsula which nearly reaches them, defend vessels, from the south wind; and though the road is open to the north and north-north-west, the winds blow seldom blow here, or with such incon siderable force, that no danger is apprehended. The island of St. Lawrence breaks off the sea from the S. W. to the E. In this port every necessary commodity which vessels need may be procured. The small river that comes down from Lima, and discharges itself into the sea under the walls of Callao, furnishes plenty of good water; and a mole, on which cranes are erected, makes it easy for ships to load and unload. The town, which the Spaniards have considered as almost impregnable, was, before the calamity, which it suffered by an earthquake, fortified by batteries and some batteries, which have never been thoroughly repaired; and it is defended by a garrison. There are two faubourgs inhabited by Indians. The trade of Callao is considerable, in consequence of its convenience as a port, and its vicinity to Lima, which lies. This place, as well as the adjacent country, has frequently suffered much from earthquakes. The most dreadful earthquake, however, seems to have been that which commenced in 1746, and continued at intervals till 1757. On this occasion the port of Callao was totally submersed; nothing remained except a piece of the wall of the fort of Santa Cruz, as a memorial of this terrible devastation. Of 23 ships and vessels, great and small, which were then in the harbour, 19 were wholly sunk, and the other four were carried by the force of the waves to a great distance up the country. Of the number of inhabitants, amounting to about 30,000.0
CALLAO, as it is called by its inhabitants, but more generally known to Europeans under the name of CAMPPELLO, is an island which lies opposite to, and about 8 miles to the callward of, the mouth of a confiderable river on the coast of Cochina-china, on the banks of which is situated the town of Fairfoo, a place of some note, not far from the harbour of Turon. The bearing of the highest peak of Callao from this harbour is about S. E. at the distance of 30 miles. The extreme points of the island lie in N. lat. 15° 35', and 15° 57'. The greatest length is from N. W. to S. E. about 5 miles, and the mean breadth 2 miles. The only inhabited part is on the S. W. coast, on a rip of ground rising gently to the cafl, and contained between the bottom of a fea bay, and the mountains on each side of it. These mountains, at a distance, appear like two distinct lands. The southern mountain is the highest, and is about 1500 feet. The inner grounds contain about 200 acres. This small but enchanting spot is beautifully diversified with neat houses, temples, bangs of trees, small hillocks swelling from the plain, and richly decorated with shrubbery and trees of various kinds, among which the elegant arbor, rising like a Corinthian column, is eminently confpicuous. A rift of clear water, oozing from the moun- tains, is carried along the upper ridges of the vale, whence it is occasionally conveyed through sluices, for the purpofe of watering the rice grounds, and for which it seems to be ample sufficient. The houses, in general, were clean and decent: a few were built with stone, and covered with tile. One, probably the mansion of the chief fennon of the island, was inclosed by a stone wall, and the access to it was through a gate-way between two stone pillars. The house was divided into a number of apartments, arranged with fafety and convenience. This building stood at the head of the principal village, consisting of about 30 habitations built of wood, chiefly the bamboo. Behind the village, and on the side of the hill, was a cave, accessible only by one path through a range of rocks; and within the cave, near its mouth, was a small temple, commanding a view of the whole vale. Several other temples were difpofed over the plain, all of which were open in front, with a colonnade before them of round wooden pillars, painted red and varnished. The number of houses on the island scarcely exceeded 60. Behind every house, not immediately in the principal village, were inclosures of sugar-canes, tobacco, and other vegetables, improving in great luxuriance. The mountains were covered with verdure and seemed well calculated for rearing goats, of which the island produced a few. Before the principal bay, there were several sandy inlets, in any of which boats might easily land; but a communication between them by land is very difficult, if not impracticable, on account of the steep and rugged ridges which separate them from each other. Hence it appears that very flight works, and an establishment of a few men would be sufficient for the defence of the island; a great part of its coast being impregnable fortified by nature. The depth of water in the bay and road is sufficient for ships of any burden, and it affords perfect shelter from every wind except the S. W., to which quarter it was directly open. The French, it is said, aware of the insecurity of trading to Tung-quin and Cochinn-china without some independent settlement, had formerly in contemplation to purchase the small island of Callao, lying a few miles to the southward of Turon. But the want of shelter in the S. W. monfoon would soon induce them, if they were once in possession of Callao, to seek for a further settlement near it, upon the main-land of Cochinn-china. Emboldly to China, vol. 1.

CALLARIAS, by some called affelles callarias, in botany, a fift of the traccusses kind, called by Aldrovan- dus times marina, and by Rondeletius and Gower phyfius. It usually grows to about a foot in length, and is in shape something flattish; it is covered with small scales, and is of a greyish colour, but somewhat purple on the head; its tail is roundish, not forked; it is a very well tast'd fish, and is common in the Mediterranean, and brought to market at Rome, Venice, &c.

CALASAN, in Ancient Geography, a river of Greece, in the island of Eldoca.

CALLAS, in Geography, a town of France, in the department of the Var, and chief place of a canton in the district of Draguignan, 11 league N. E. of it. The place contains 21,505, and the canton 8,186 inhabitants; the territory comprehends 2729 kilometres, and 5 communes.

CALATIIS, and CALLANTIIS, in Ancient Geography, a people of India, who have the custom, according to cro- dotus, of eating their parents.

CALATIS, CALLATIS, or CALANTRA, a town situated on the westem coast of the Lusine firth, south of the mouth of the Ifer, and 300 fathoms distant from Tonn. See Callatis.

CALLE, JOHN FRANCIS, in Biography, a French mathematician, was born on the 25th of October 1744; at Verfailles, where he received a good education, and acquired an early taste for the mathematics. In 1768 he came to Paris, where he had an opportunity of being more thoroughly instructed. In 1774 he formed some distinguished pupils for the school of engineers, where the examinations were strict, and admission difficult to be obtained. In 1779 he gained the prize proposed by the Society of Arts at Geneva, for efeojments. In 1783 he completed his edition of "Gardiner's Tables of Logarithms," which were exceedingly convenient, of great utility, and very correct; and which possessed advantages above all the others. In 1786 he was appointed professor of hydrography at Vannes, afterwards at Dunkirk, and in 1792 he returned to Paris, and was for a few years professordes ingénieurs géographes at the depot of war. This public having been suppressed, he continued to teach in Paris, where he was always considered as one of the best mathematical masters to whom pupils could apply.

In 1792 he published the new stereotype edition of the "Tables of Logarithms," considerably enlarged with logarithmic tables of the sines, according to the new decimal division of the circle. These are the first which ever appeared. Towards the end of 1797 he presented to the National Institute the plan of a new telegraph and a telegraphic language, accompanied with a dictionary of 1,000 French words adapted to it by a combination worthy of a able mathematician.

These labours had injured his health; he had been a long time athmatic, and, notwithstanding his condition, he published, that year, an excellent memoir on finding the longitude at sea, under the modest title of A Supplement to the Trigonometry and Navigation of Buzor. He died on the 14th of November 1798, leaving behind him a daughter, born at Vannes in 1797. According to a tradition in the family, he was defended from Dfeartes. La- lande's Hilt. Alton. for 1798.

CALLE, in Ancient Geography, Porto, a town of Hip- nia Citerior, to the south, near the mouth of the river Du- nus, on the frontiers of Lusitania. This town, at first a small port, became afterwards considerable among the Cal-
that, to whom it belonged. It is now called Puerto by the Portuguese, and Porto-Po, or Porto by the French. From this name Calla, and that of Porto, the appellation of Portugal is said to have been derived.

Calle, i.e. in Geography, a town of Africa, in the province of Callian, surrounded on three sides by the sea, and defended on the fourth side by a strong wall. This place is inhabited by 3,000 Christians and Moors, and is the chief factory of the French African company on this coast. The stores belonging to the company are the only regular buildings; the rest of the inhabitants, composed of the family of the populace of Marfellis, live in wretched huts. They are employed in packing and un-packing of goods, in the coral fishery, and in taking care of the cattle; they likewise perform military duty, and daily mount guard. Besides the advantage of the coral fishery, and of the whole trade of the circumjacent country, the French have also at Boma, Tuckuf, Siggaga, and Call, the monopoly of corn, wool, hides, and wax; for which they pay yearly to the government of Algiers, to the kahle of Boma, and to the chiefs of the neighbouring Arabs, 30,000 dollars, i.e. about 500 guineas of our money.

Callæa, a name anciently given by the Spaniards to the Abipons, on account of their singular practice of eradicating the hair over their foreheads, so as to produce the appearance of baldness: but their features resemble the European, and the nose is commonly of an aquiline form. They carefully eradicate the beard, and mark their foreheads and temples with particular fears, by way of ornament. The males are accustomed from childhood to the use of the bow. Hunger alone dictates the time to eat; and they consume vast quantities of animal food. They prefer clean air to frequent bathing in the lakes and rivers. They have no idea of a monarch, but are ruled by many caciques, which they call "capitas," from a Spanish term. They seldom marry till the husband and bride have exceeded their twentieth year; and the lady is purchased from her relations at the price of four horses, and woollen cloths of various colours, somewhat resembling Turkey carpets. They pretend to expedite the birth by a mixture of cabbage juice and wine; and on the birth of a cacique's eldest son they observe many ceremonies. They chiefly bury their dead under the shade of trees; and the horses of a chief or warrior are sacrificed on the occasion. The bones are afterwards disinterred, and carried to a considerable distance. For other particulars concerning them, see Abipons.

Cale, a port-town of the county of Kilkeney, province of Leinster, in Ireland. It was a borough before the union, and was often distinguished for the violence of the contests, having been of the kind called potwalloping, in which every housekeeper has a right to vote. It is of great antiquity, having been made a borough by William, earl Marshall, a descendant of Strongbow, in 1217, but it does not appear to have ever been a town of much importance. The present number of houses is 582, of which 46 only pay the window tax; the population is about 3,500, which is a considerable increase since 1713. It has no manufacture, except a distillery, and some lace made there, yet it has fine streams of water, and is in the neighbourhood of a bog, which supplies abundance of fuel. There are seven fairs, some of which are remarkable for the sale of horses, and others of turkeys, which are brought up here to be sent to Bridol. The liberties of the town include 3,060 acres of rich ground, with a lime-rock bottom, of which 1,400 acres only are productive. The crops of wheat grown here are very fine. A common of 1,000 acres formerly belonged to the town's people, which has been reduced by encroachments to about half the number, and the enclosure of the reef on a similar plan would be of great use. Indeed a resident and improving landlord might render this town very flourishing. Though the adjoining country is fertile and populous, the whole district of Callia, with five adjoining parishes, are united under one rector, who resides near Callia, the old church of which is in good preservation. These five parishes contain 41 Protestant families, most of which live in the town. There are the ruins of an abbey, and three castles, with some vestiges of walls, which are said to have been destroyed by Cromwell. There is also a moat, the perpendicular height of which is 40 feet, and the flat summit 138 feet by 72. A curious charter given to this town by William earl Marshall, may be seen in Coke's history of Ireland; the privileges conferred by which, though limited to be of all kinds which it became burghers to possess, and the grantor to follow, were left to the town, now enjoyed by the merchant subject of the United Kingdoms. Some other particulars might be collected from Tighe's Account of Killkenny, and the old histories, if it were necessary. Callia is on the road from Dublin to Cork, being 65½ Irish miles, S. W. from the capital. N. lat. 52° 32'. W. long. 7° 34'.

Callia, the name of a river in the county of Armagh, in Ireland, near which the city of Armagh is situated, and which flows through a remarkably fertile country. It joins the Blackwater near Moy.

Callenberg, a town of Germany, in the circle of Upper Saxony, and lordship of Schonburg; 4 miles N. E. of Zweickau. Also, a chain of mountains of Germany, commencing about 5 miles from Vienna, and traversing the duchy of Sturia.

Callender, in Geography, a town of Scotland, in the county of Perth, seated on the river Teith; 11 miles N. W. of Stirling, and 50 W. S. W. of Perth.

Callender, in Manufacturers. See Caileander.

Callie, in Ancient Geography, a town of Spain, in Bética, and in the jurisdiction of Aligis, according to Pliny.

Callée, in Geography, a town of Britain, in the country of the Atticati, placed, in Antonine's Itinerary, in his seventh route from Regnum to Londinium, between Venta Belgarum and Pontibis, 22 miles from the former, and at the same distance from the latter. Dr. Stukley places it at Farnham; and Mr. Horsey at Silehefer.

Calle, a town of Peloponnesus, in Arcadia. Paufanias.

Callagh-Crum, in Geography, a rock near Bin-nychead, in the county of Mayo, in Ireland. N. lat. 54° 21'. W. long. 6° 37'.

Callian, a town of France, in the department of the Var; 10 miles N. E. of Draguignan.

Callian, or Callian, a river of Hindooostan, the mouth of which is on the side of the found, formed by Bombay, Sallfort, and the neighbouring shores of the continent, opposite to the fort of Tannah. The ruins of Callian, noticed by Feryer, are probably those of the Calliana of the Periplus. Mar. Eryth.

Callianee, a town of Hindooostan, in the country of Dowlatabad. It is large and populous, confiding of one long street filled with shops; the houses are constructed of tile-wood, and covered with thatch; 65 miles W. of Beder, and 85 E. of Viapour. N. lat. 17° 45'. E. long. 76° 54'.

Calliaqua, a town and harbour at the S. W. end of the island of St. Vincent, in the West Indies. The harbour is the chief in the island, and draws thither most of the inhabitants and the greater part of the trade.

Calliber, or Caliper. See Caliber.
CALLIBLEPHARA, from καλός, beautiful, and βλεφαρίς, eye-lid, in the Medicinal Writings of the Ancients; a name given to certain compositions intended to make the eye-lids beautiful; and as the eye-lids are subject to be deformed in several ways, there were several different sorts of these medicines.

CALLIBOLIGE Sound, in Geography, lies to the N.E. from the nearest entrance into Savannah river, in the state of Georgia, in North America, behind Hilton-head island. The latitude there is 32° 4' N. W. long. 81° 12'.

CALLICA, in Ancient Geography, a town of Asia, in Bithynia, placed by Ptolemy at some distance from the Euxine Sea. CALLICARIA, a promontory of India, on this side of the Ganges, according to Ptolemy.

CALLICARIS, a town of India on this side of the Ganges. Ptolemy.


Sp. 1. C. americana, Linn. Sp. Gart. Tab. 94. fig. 5. La Marec Ill. Pl. 69. f. 1. (Johnfonia, Miller; fipho; locoboece, Mitch. eph. nat. cur. S. 809. Durbardia, Dumb. arb. 1. 111. Tab. 44. Pluk. aln. Tab. 136. fig. 3. Catecb. Car. 2. Tab. 4. Gron. v. 136.) "Leaves egg- shaped, acute, serrated, rather downy beneath; berries glo- merated." Lam. A shrub from three to six feet high. Branches round, or a little compressed, pubescent, and somewhat corymb near the summit. Leaves opposite, petiolate, green above, but downy on the nerves, and entirely covered with a short, whitish down beneath, from four to five inches long, and two inches broad. Flowers small, reddish, or purple, in small, axillary, branched, opposite corymbs scarcely longer than the petals, with downy peduncles. Berry superior, the size of a small pea, globular, purplish; at first red, afterwards deep purple; one-celled. Lam. and Gart. A native of Carolina, and professor Martyn says, also of Cochinchina, but quotes no authority. The seeds were sent to Miller by Cateby, in 1724; and the plants raised from them flourished in the open air till the severe frost of 1746, when most of them perished. They are caussily raised from seeds on a moderate hot-bed; but as the young plants are tender, they should be placed under a frame before the first autumnal frosts, and should be kept sheltered during the winter, having fresh air whenever the weather is mild. The following spring they should be transplanted into fresh pots or into the nursery bed in a warm situation; in three or four years they will have acquired strength enough to live in the open air through the winter; but in severe frosts the surface of the ground about their roots should be covered with old tan, and their tops protected by straw or fern. Miller. 2. C. cana, Wild. (C. tomentos, La Marec, Encyc. i. 56.) "Leaves ovate-lanceolate, serrated, very white, with down underneath; berries small, distinct." A shrub very distinct from the preceding, but so much resembling it, that La Marec found it difficult to form a satisfac- tory specific character. Flowers smaller, but more numerous, and in looser corymbs. Stamens twice as long as the corolla. A native of the East Indies, communicated to La Marec by Sonnerat. 3. C. latifolia, Wild. La Marec, Huf£ (C. tomentos, Murray. Syll. Veget. p. 135. Gumel. p. 240. Gart. Tab. 94. f. 5. C. folis integerrimis latifoliae. Mart. 331. Tab. tomentos, Linn. Sp. Pl. p. 172. Arbor malabarica, Ilia dietia. Burm. Zey. 26. ind. 36. Cornutia corymbosa, La Marec, Encyc. vol. i. p. 54.) "Leaves egg-shaped, entire, downy, underneath; smaller branches, pedicels and peduncles woody." Lam. Branches obtusely four-angled. Leaves opposite, large, petiolate, acuminate, green, and a little wrinkled above, resembling those of viburnum lantana, but more pointed. Flowers small, white, with a tinge of red, in short axillary and terminating cor- ymbs. Corolla scarcely a line long; calyx very woody; obscurely four-toothed, spreading. Berries small, blackish, half bedded in the permanent calyx. A native of the East Indies, communicated to La Marec by Sonnerat. 4. C. macrophylla, Wild. Vahl. Symb. 3. p. 15. Tab. 173. "Leaves lanceolate-elliptical, scolloped, attenuated, wrinkled above, white, with down underneath; branches downy." Perennial. A native of the East Indies. 5. C. frigida, Willd. Martyn. Swartz, prod. 31. "Leaves broad-lanceolate, serrated, rather rugged underneath; cymes terminating, and axillary." Perennial. A native of Java. 6. C. ribo- culata, Willd. Martyn. Swartz, 31. "Leaves elliptic-lan- cecolate, a little serrated, wrinkled, white, with down underneath." Perennial. A native of Jamaica. 7. C. longifolia, Willd. La Marec, Pl. 69. fig. 2. "Leaves long, lanceolate, a little toothed, green on both sides; corymb, or rather panicles, small, axillary." Perennial. Leaves seven or eight inches long, an inch and a half broad, opposite, petiolate, acuminate, thin, nearly smooth, except when young. Calyx short, but slightly four-toothed; filaments twice the length of the corolla. Style as long as the stamens; stigma truncate. A native of Malacca, communicated by Sonnerat. 8. C. integrifolia, Willd. Jacq. am. 15. Tab. 173. fig. 7. "Leaves egg-shaped, acute, very entire, a little downy underneath; racemes dense, axillary and terminating; tube of the corolla four times longer than the calyx." Perennial. A native of woods about Carthagena, in South America. 9. C. villosa, Willd. Vahl. Symb. 3. p. 14. "Leaves oblong-egg-shaped, very entire, reticulated beneath with downy veins; racemes axillary; pedicels many-flowered." Perennial. It differs from all the other species in its long peduncles, not detautomously branched. 10. C. japonica, Willd. Thumb. jep. 60. "Leaves oblong, acuminate, serrated in the middle, smooth." Stem thorny, erect, smooth; branches opposite, round, smooth, purple, disarticulated. Leaves opposite, on short pedicels, green above, pale underneath, armed, two inches long. Flower white, axillary, panedile, very small, panicle trichotomous, supra-decandrous, somewhat faltigate; bracteae linear; pedicels half an inch long, with very short pedicels; filaments inserted into the germ, very short; anthers oblong; germ superior; style axil-flanged, shorter than the corolla; stigma simple, acute. A native of Japan. 11. C. umbellata, Martyn's Miller, Loud. Cochinich. 70. "Leaves between top and egg-shaped, smooth, alternate; umbels sessile." A middle sized tree with ascending branches. Leaves quite entire, reflexed at the edge. Flowers small, in few-flowered umbels, axillary at the end of the branches. Calyx bluntly four-angled; corolla bell-shaped, with a short tube; filaments and stigma sessile. Berry fleshy, roundish, small. A native of Cochinichia in woods. 12. C. tris- thalia, Martyn's Miller, Lour. Cochinich. 70. "Stem climbing; leaves three-lobed; pedicels dichotomous." A long branching thorny, climbing by leafy tendrils. Leaves serrated, smooth, on long pedicels. Flowers axillary, pale. Berry 5 H 2 round.
CALLICORUM, in Ancient Geography, a rise of Asia Minor; placed by M. D’Anville in the eastern part of Bithynia, with a northern course into the Euxine Sea, to the call of Hercules, among the Canoceans.


Gen. Ch. Col. Involute of one or more leaves, including numerous fleshy flowers on a chiefly receptacle; penanth five-toothed, superior. Cor. monopetalous; tube cylindrical, swelling upwards; border five parted, spreading. Stam. filaments five or four, capillary; anthers oblong, erect. Ptl. germ inferior; style capillary, bilab.; stigma obtuse. Peric. Berry angular or wrinkled, one- or two-valved. Seeds two, flat on one side, convex on the other, angular.


pennatular; sometimes, but rarely, slightly oblique; from two to four inches long, or more; slender upwards, the thickness and form of the stem; two or three lines thick below, irregularly bent, brown without; divided into numerous prominent, unequal, somewhat wrinkled rings; of an acrid, bitter taste, but scarcely any smell; when dry the bark is thick, hard, brittle, brown without, white within, of a gummy, resinous nature, including a small, woody, white, nearly insipid, mucilaginous fibre, from which it is easily separated into numerous rings, which are smooth at their edges. Stem somewhat flabellately procumbent, then erect, sometimes excising at the base, round, about the thickness of a common quill; smooth and without leaves below, brown, and knotty with the scars of fallen leaves, the internodes upwards gradually decurrent in length; near the top pubescent, green, leafy; for a year or two simple; then throwing out a few leaflets, rather crooked, knotty runners, taking root irregularly at the knots, and producing one or two new stems about half a foot from each other. Leaves: from four to eight near the summit of the stem, opposite, spreading, three or four inches long, one or two broad, perfectly entire; deep green above and be sprinkled with roughish points, smooth, or rarely be be with a few scattered hairs; underneath pale green, and somewhat pubescent; with a rather elevated rib, and alternate, nearly parallel, lateral veins curved at the end; petioles short, channelled, a little hairy. Stipules two, extraflabellate, pressed close to the stem, deeply cut into awl-shaped divisions, slightly adhering to the petioles, about equal to them in length, and with them flaying the stem, thrivelling. Flowers aggregate in a solitary head, peduncled, terminal, and a little drooping; peduncle round, pubescent, about half an inch long; florets fissional, from fifteen to twenty-four, scattered by changeable leaflets or bracts; bracts the length of the involucrum and florets, pubescent, very entire, fissional, green, varying in form, sometimes longish-egg-shaped, sometimes rather obtusely lanceolate, and sometimes, but rarely, in size and figure resembling the leaflets of the involucrum. Involucrus: four-leaved; leaflets a little heart-shaped, acute, entire, almost fissional, slightly waved, hairy; the two outer ones largest, and all a little longer than the florets. Calyx, perianth, superior, permanent, membranous, white, very short, with five blunt teeth. Corolla monopetalous; tube cylindrical, long, a little swelling upwards, woolly about the throat; border shorter than the tube; with five egg-shaped, acute, recurved segments. Stigmas, filaments five, capillary, short, inserted on the upper part of the tube; authors oblong, linear, crept, projecting beyond the top of the tube. Petals, germ egg-shaped, not angular; yle thread-shaped, the length of the tube, round at the base with a short, nectariferous rim; stigmas two, oblong, rather thick, blunt, the length of the anthers. Pericarp, berry one-seeded, with two seeds, roundish, neither furrowed nor angular, crowned with the calyx, purplish red, soft, and finally becoming wrinkled and black. Those which fall before they are ripe, when they grow dry, have a little furrow on each side, occasioned by the separation of the leaflets, as they lie with their flat sides towards each other. Seeds two, elliptical, smooth, a little twisted; flat on one side, with a longitudinal, somewhat elevated line running down the middle; convex on the other, with a furrow near the apex. A native of moist woods in Pernambuco, and other provinces of Brazil, flowering from November to March, and ripening its berries in May. Described by Felix Avellar Brotero, professor of botany at Coimbra, with the assistance of observations made in Brazil on living plants, by Bernard Cohn, a resident medical botanist. It is called ipecacuanha by the natives in some parts of Brazil; pox do matto by those of the southern provinces; and cipo by others, which is the name often given it by the Portuguese settlers.

Though the root of this plant has been known in Europe about 150 years, and has been in general use as a valuable medicine nearly as long; and though figures of it were early published by Pio and Margarave, modern botanists have known little of its botanical characters, and were long unable to determine the genus to which it ought to be referred. Linnaeus, in a paper published in the third volume of "Amoenitates Academicae," gave it as a trivial name to a species of Euphorbia, a native of Virginia and Carolina, the root of which is there used as an emetic; but this was soon discovered not to be the real ipecacuanha. In his second Mantissa, he gave the same trivial name to a species of Viola, a native of Brazil, the root of which he supposed to be the white ipecacuanha of the shops. Descendes, in a paper published in the "Bulletins des Sciences par la Societe Philomathique," and published in particular in the "Nouveau Dictionaire d'Histoire Naturelle," says, there are three species of Viola which produce the white ipecacuanha: the caulicolaria of the species Plantarum, a native of Guiana and the Antilles; the ipecacuanha of the Mantissa, and the paraphora of the Supplementum Plantarum, both natives of Brazil. The roots of these, and especially the last, are sometimes mingled in commerce with the true or brown ipecacuanha; but they are a fraudulent adulteration, and do not possess its active properties. They may be distinguished by their colour; but most certainly by the size of the woody part, which in these is always considerably thicker than the bark, whereas, in the true ipecacuanha, it is much less; and, as described by Brotero, is only a fibre (filum). The roots of some species of Afelepsias, Cynanchum, Dorletinia, and Ruellia, have likewise received the name of ipecacuanha, on account of their pellifying some of the same qualities; but in this there is no deception, as they have been honestly called false or furious ipecacuanhas.

Some time before the year 1781, Mutis, then travelling in South America, sent to the younger Linnaeus a description formed from a specimen in full flower, which the governor of the province of Girong had received from Canaverale on the river Magdalena, and which an empire of the country, to whom it was shown by Mutis, positively assured to be the genuine ipecacuanha, having frequently gathered it in the neighbourhood of Simites, where it grows wild in great abundance, and whence it is regularly shipped to Mompoxia, as an article of commerce for Europe. From this description, Linnaeus judged it to be a species of Pilocytaria, a genus formed by his father for two or three plants that are natives of the East and West Indies, and published it as such in the "Supplementum Plantarum;" at the same time expressing a doubt whether it were really the ipecacuanha of Pio and Margarave; but also adding, that, from its resemblance to their figures, he was rather inclined to believe it the same.

In the year 1799, Dr. Woodville was favoured by Sir Joseph Banks with a specimen preferred in spirits, which had been sent from Brazil. A drawing taken from it was engraved and published in his Medical Botany. It was without a flower, but as its root was entire, there was no doubt of its being the real plant. Its genus, however, still remained in a state of uncertainty; for Dr. Woodville was of opinion that he could not "implyly follow the authority on which Mutis received the information." The lovers of natural history are, therefore, highly obliged to Professor Brotero for his satisfactory monograph on the subject, read at a meeting.
meeting of the Linnean Society in February 1804; and which, as no description of the plant has hitherto appeared in English, we have translated with little abridgment from the original Latin. Mr. Brotero does not seem to have been acquainted with the communication of Mutis to the younger Linnaeus; or, if we suppose that he must have formerly seen it in the Supplementum Plantarum, a work in the hands of every botanist, he had certainly forgotten it when he composed his dissertation. On comparing the two descriptions, there appear one or two important, and a few lighter differences; but there is to great a general resemblance, as to make it evident that they are very nearly allied to each other, and to render it probable that they belong to the same natural genus, and possess the same qualities in perhaps an equal degree.

In the description given by Mutis, there is no mention of an involucrum and the bracts which separate the florets are said to be so small as to be scarcely discernible. The first affects the genus as it has hitherto been characterized by all authors; and, as we, in conformity with them, have given it above. The other is only a specific difference; but we suppose it will be acknowledged to be a strongly marked one. The involucrum in Mutis's plant is awl-shaped and horizontal; in that of Brotero, they are deeply laciniated, and pressed close to the stem. In the former, the flowers are placed to axillary, and to have only from two to five flowers, which are not described as forming a head; but a simple inspection of Brotero's figure will make it manifest that they may be called either terminal or axillary with nearly equal propriety; also, their number may be a variable circumstance depending on soil and situation; or, if constant, may be introduced with advantage into the specific character. In all other respects, they are so much alike that the description of one will serve for the other. The credit of the Brazilian emprise, which seems to have suffered in the estimation of a regular European physician, by that degrading appellation, is therefore effaced. The blossoms of Sir Jof. Banks's plant, as figured by Dr. Woodville, agree in shape with those described by Mutis, and are strikingly different from those figured by Brotero; the root also of the former is more knotted and irregular in its surface. It may then, we apprehend, be fairly concluded, that there are at least two distinct species; and nothing forbids their being placed under the same genus, as nature certainly dictates, but the want of an involucrum in that described by Mutis. The presence or absence of an involucrum is, however, a circumstance which ought not to enter into the essential part of a generic character. The genus Corus might be cited as a familiar case in point; but calliocca itself, as it actually now stands in authors, is a sufficient instance. For if, in spite of Schreber, the Maccaroni, and Willdenow, all agree in referring to it an involucrum, as an essential character, Schreber inconsistently adds, in a note, that it is in some cafes without one, and of Willdenow's 12 species, four are expressly said, to have naked heads, or to be ditillate of an involucrum. Whether the plant which the latter author mentions as having an involucrum of any species of a similar description we cannot determine, as the alphabetical part of the Encyclopædia is not so far advanced; and though he has figured it in his Illustrations, and given what he thought its essential character in the sympotic table, at the head of the clafs, the enumeration of the species remains unpublished. The three species figured by him have a very conspicuous involucrum. Two of them we have not ventured to quote; of the carpinchen, Willdenow's involucrata, there can be no doubt. Upon the whole, it seems to be evident, that the involucrum ought to be excluded from the generic character. The essential difference between it and morinda will then entirely rest on its flat, chaffy, or, as it might perhaps better be called, bracted receptacle; which, at least as far as precedent goes, will be deemed a sufficient distinction. Psychotria differs from both in not having the flowers in heads on a common receptacle. Mutis in his description of his psychotria emetica does not mention a common chaffy receptacle; but the sessile flowers on a common peduncle, with a bract to each flower, clearly imply it, and knew that the species is properly a calliocca. We shall therefore add, 14. C. mutisii, (psychotria emetica, Linn. jun. Sup. Pl. p. 144.) variable, susceptible, pubescent, pedunculate, smooth; fructes entire, awl-shaped; corolla five-parted, chaffy bracteae very small." A native of Brazil. All the known species are perennial.

We have followed Schreber and Willdenow with little hesitation in uniting the tapogeone, pataeae, and even of Anble, though the Maccaroni has kept them separate. A difference merely in number cannot warrant the construction of a new genus. Of the carpinchæ we have much doubt, on account of the important difference in the fruit. The plant made it a distinct genus in the alphabetical part of the Encyclopædia, but has figured it as a species of his tapogeonæ in the Illustrations, which must be considered as his latest decision on the subject. Nor can the genus of tapogeae and even be absolutely fixed, till we become acquainted with their fruit.

Calliocoæ, in Manufactures, a species of cotton cloth, originally imported from the East Indies, from the kingdom of Calicut, on the coast of Malabar, whence the name Calicoæ is derived.

The term is now generally applied to cotton cloths of English manufacture, and comprehends many varieties of fineness and texture. English calliocoæ were first manufactured at Blackburn in Lancashire, about 30 years ago, and have since become one of the leading articles of national industry, affording employment in the various details of spinning, weaving, bleaching, dying, &c. to a considerable portion of the population of that county. See Cotton Manufactures.

Calliocoæ-Printing. See Printing.

Calliocolonæ, in Ancient Geography, a hill of Asia Minor, in the Troade, and in the vicinity of Simois, accorded to Homer. It is mentioned by Strabo.

Calliocrates of Tyre, in Biography, an historian who flourished under Archelaus, and wrote his life; but he is said to have dwelt too much in trifling incidents. Vespasian lauded him the most learned of all the Greek historians of his time.

Calliocrates, an Athenian architect and sculptor, who lived about 472 years before Christ. He is said to have engraved some of Homer's verses on a grain of millet, and to have made an ivory chariot which might be concealed under the wing of a fly, and an ant of ivory in which all the members were distinct. Alcan, however, justly ceases him for employing his talents in performances so trivial and useless, and yet so difficult.

Calliocrates, a Lacedemonian general, who succeeded Lyæander in the command of the Athenian fleet. He was eminently distinguished not only for his valour and military skill, but for his simplicity, integrity, and magnanimity. When he arrived at Ephesus to take the command, Lyæander adopted every base and treacherous method in his power to embarrass him; and with this view sent back to Cyrus, the ally of Sparta, the money which he had given to him for the naval service, and, at parting, he said to his successor with a sneer: "Let us now see, Calliocrates, how you
you can defray the charges of your army." This hostile measure involved him in difficulties, more especiably as he could not recur to those means of relief which Lydander did not scruple to adopt. At length, when all his resources were exhausted, he repaired to the court of Cyrus in order to solicit pecuniary assistance. But, treated with neglect, and disappointed in his expectations, he returned to Ephesus; determining, however, not to procure relief, urgent as his necessities were, by doing any thing that would entail disgrace on his country or on himself. Cyrus, on subsequent deliberation, sent after him a supply of money for the payment of his troops, together with presents for himself.

The former he retained, but returned the latter with this memorable message: "That there needed no private friendship between Cyrus and him, because as long as the king observed the conditions of his treaty with the Lacedaemonians, he should think himself bound by it." He then attacked and defeated Conon the Athenian general, and besieged him in Mytilene. Hearing afterwards that the enemy's grand fleet was at Arginthis, opposite to Lebros, where he was stationary, he resolved to engage it.Whilst he was sacrificing in the morning, the foot-halter informed him, that, if he fought, the fight would in the issue be prosperous, but that the admiral would lose his life; to this declaration he replied, without any apparent concern; "Let us fight then; Sparta will not lose much in losing me; but he would forfeit his honour, if I retired in the flight of the enemy." An obstinate engagement ensued, in which Callirhides was sunk with his ship; B. C. 425; and, notwithstanding the foot-halter's prediction, the Lacedaemonians were defeated with great loss. Anc. Un. Hist. vol. v. p. 453.

CALICULAR MONS, in Ancient Geography, a mountain of Italy in Campania.

CALIDROMUS, a mountain in the Locride at the foot of which was the passagio of Taphrysia.

CALIDRYS. See Calidris.

CALIDRYS, in Ornithology, a name given by Belonius and some other authors, to our common red-throated; Scolopax calidris.

CALIDRYS, of Belonius, supposed by some to be the same bird as Tringa communis of modern ornithologists, or what we call the knot, but this is doubtful.

CALLIFÉ, in Ancient Geography, a town of Italy in Samnium, in the country of the Hirpini. Livy.

CALLIGA, a town of India, on this side of the Ganges. Ptolemy.

CALLIGICUM, a promontory of India, in the peninsula on this side of the Ganges, which terminated the Argaic gulf to the north-west.


Gen. Ch. Cal. Cal. perianth one-leaved, top-shaped at the base, with a five-parted border; segments nearly equal, roundish, spreading, finally a little reflexed, permanent; the two outer ones a little smaller than the others. Coroll. none, unless the calyx be considered as such. Stam. filaments about sixteen, diverging, capillary; pubescent, and a little thickened near the base; slightly united at the base in the form of a neck; anthers roundish, two-celled, peltate. Pet. germ superior, egg-shaped, four-fidged, acuminate; styles four, sometimes only three, thread-shaped, spreading, a little united at the base, scarcely longer than the filaments; stigma capitate. Peric. none, except the calyx. Seed, with a juicy, incompressible, naked or semi-naked, oblong, four-fidged, four-winged, one-celled, without valves; wings either membranaceous, longitudinally two-parted, toothed, and curled; or rough with branched bristles, kernel of the same form.

Eff. Ch. Calyx five-parted, corolla none, filaments about sixteen, a little united at the base, germ superior, four-fidged, stylar, three or four, nut four-winged, one-celled. P. L'Heritier.

Sp. t. C. polygonoides, Linn. Sp. Pl. (polygonoides, Tourn. Corol. 47. Tab. 478. Istn. Orient. vol. ii. p. 536.) with a figure." "Fruit latticed; bristles branched, rigid." P. L'Heritier. A shrub three or four feet high. Stem as thick as the human arm, zigzag, hard, brittle, covered with a reddish bark, divided and subdivided into many similar branches, which at length put out numerous jointed twigs of a green-moss colour, an inch or fifteen lines long, and half a line thick, which Tournefort calls leaves, and says are so like those of Ephedra, that it is not possible to distinguish them without seeing the flowers. Flowers at the joints of the upper ramifications, on slender, short peduncles, pale green in the middle, white at the edges, permanent; filaments white; anthers purple. Fruit half an inch long, four lines thick, conical, deeply furrowed longitudinally; angles terminated by wings cut into fine fringes. La Marck calls it a capsule. Found by Tournefort near the river Araxes in Armenia. 2. C. comosum, Willd. P. L'Heritier. Linn. Trans. vol. i. and Strup. vol. ii. p. 57. La Marck Illust. Pl. 410. (Pterococcus apellalbus. Pallas, Voyag. ii. p. 758. Tab. 8. French Translation, p. 473, and 547. Pl. xvi. Pallasia caprica, Linn. Supp. 252. Saviugy in Encyc. Pallasia Pteroccus. Pallas Pl. Ross. ii. p. 70. Tab. 77, 78.) "Wings membranaceous, curled, toothed," P. L'Heritier. A shrub three or four feet high. Root thick, woody, an inch and half in diameter, differing deep into the land, with a tuberous head. Stems numerous, about the thickness of a finger, erect, branched, spreading, thick-stemmed, brittle, with a grey, fluted bark. Branches, alternate, round, zigzag, jointed, a little knotty, without leaves; putting out every spring, at each joint, from six to ten clove feet, herbaceous, rough like shoots, sometimes simple, sometimes branched, of a fine green and nearly glaucous colour, a few of which surive the winter, and are hardened into branches; the rest perish, and leave a knotty bear. Stipulae membranaceous, obscurely trifid, thrifling, surrounding the joint as in the polygonums. Leaves alternate, sessile, solitary, at each joint of the herbaceous shoots; round, awl-shaped, semi-fleshy, resembling the shoots, half an inch long. Pallas says there are no leaves, but P. L'Heritier affirms that they were actually present in plants cultivated by himself, which flowered and ripened their fruit. Flowers numerous in clusters, from three to five together; lateral or axillary within the flowers, on the young or woody branches, as well as on the herbaceous shoots; white, with a greenish tinge in the middle. Stamens ten, the length of the calyx, and withering with it as the fruit increases, without falling off; filaments bristle-shaped, thick in the base, downy; anthers nearly globular, two-celled. Germ conical, four-fidged, rarely three-fidged, the bivalve angles prolonged so as to form the wings of the fruit. Wings somewhat oval, of a crimson colour, fringed, and split near the edges, spreading.
When does an notes Sligma native Junius Corolla celebrated He Gruter tranflation "the for and fruit the a

dinary, fefamum We he deeply round, gold, green, month, Flowered inr which the

habit It honour which water Vallas fell afterwards and found Vallas; in VOLUSIA, Pallas
fell; Vallas long: the fuppofed by Ta^u>fa?oi, pace a

and Vallas, were a called good hand, who

read the god of the Crete. Vallas said of the Greeks. Vallas, in the prefale to her edition of his poems, says, that, among the writings of ancient Greece, there is nothing more elegant and polite than these compositions of our author. To the fame purpoe her father, Tanaquil Faber, in his "Abregé des Vies des Poetes Greeks," declares, that Callimachus's manner of writing is neat and strong; and that Catullus and Propertius frequently imitate him, and sometimes translate him. Accordingly the "Coma Berenices" of the former is a translation from Callimachus. Of the various editions of this writer we may mention Mad. Dacier's, 4To. Paris, 1674; Bentley's, 8vo. London, 1741; Grauvius's, 8vo. Utrecht, 1697; Erne- neth's, 8vo. L. Bat. 1761; Loefner's, 8vo. Lipf. 1774. We have a tranlation of the works of Callimachus into English verfe, with notes, &c. by Dr. Tytler, 4To. Lond. 1792. Gen. Diet.

Callimachus, in Geography, a promontory of Africa, in Marmarica; and also a village situate towards the north-eall of this promontory. Polemy.

Callimachus, in Biography, a celebrated architect, painter, and sculptor of Corinth, flourished about the year B.C. 540. To him is ascribed the invention of the Corinthian order. See Abacus. He also made a golden lamp for the temple of Minerva at Athens, which he furnished with a wick of allotio, that it might burn without wasting. Callimachus acquired the name of k\textsubscript{a}k\textsubscript{a}k\textsubscript{a}k\textsubscript{a}-t\textsubscript{e}p\textsubscript{e}p\textsubscript{e}, from being unable to please himself by his works.

Callimachus, a celebrated poet, grammarian, and critic, was a native of Cyrene in Libya, flourished in the reigns of Ptolemy Philadelphus and Ptolemy Euergetes, being one of the keepers of the Alexandrian library, and died about the year 244 B. C. He was the son of Battus and MFatome, whence Ovid denominates him "Battidae." Strabo (ib. xvii.) informs us, that he claimed descent from king Battus, who was the founder of Cyrene. He was a disciple of Hermocrates the grammarian, and excelled no less as a critic than a poet. Before he was recommended to the favour of Ptolemy Philadelphus, he taught school at Alexandria, and had the honour of educating Apollonius, the author of the Aragonauts. His poetical compositions were chiefly short pieces, as hymns, elegies, and epigrams; and when it was objected to him by his enemies that his Muse could not undertake any considerable work, he made use in reply of the saying which has become proverbial "A great book is a great evil." His powers, however, were manifested by two works of greater extent, entitled "Hecate," and "Aitia." The characteristics of these poems of Callimachus, which have reached our times, are elegance and polish, and choice of expressions; and these correspond to the character given of him as a poet by Ovid (Amor. eleg. 15. lib. 1):

"Battidae toto fempert cantabatur orbis; Quamvis ingeniis non valet, arte valet."

"The strains of Battus' son shall never depart;" If not in genius, he excels in art."

Quintilian, in his "Institutiones Oratoriae" (l. x. c. i.), applauds Callimachus as the prince of elegiac poets, among the Greeks. Mad. Dacier, in the preface to her edition of his poems, says, that, among the writings of ancient Greece, there is nothing more elegant and polite than these compositions of our author. To the same purpoe her father, Tanaquil Faber, in his "Abregé des Vies des Poetes Greeks," declares, that Callimachus's manner of writing is neat and strong; and that Catullus and Propertius frequently imitate him, and sometimes translate him. Accordingly the "Coma Berenices" of the former is a translation from Callimachus. Of the various editions of this writer we may mention Mad. Dacier's, 4To. Paris, 1674; Bentley's, 8vo. London, 1741; Grauvius's, 8vo. Utrecht, 1697; Erne- neth's, 8vo. L. Bat. 1761; Loefner's, 8vo. Lipf. 1774. We have a tranlation of the works of Callimachus into English verfe, with notes, &c. by Dr. Tytler, 4To. Lond. 1792. Gen. Diet.

Callimachus, in Physiology, a fially substance found in the cavity of the utters, or cagle stone. The word is also written callimus, and in some copies of Pliny calicus; which latter reading Salmasius receives. The callimus fills the hollow of the utters, much as the yolk does the white of an egg.
The goodes, instead of a callimus, or solid stone, have a loce, faney, chalky, or earthy substance, and the enyhdris a liquid substanice.

Callenger, in Geography, a town of Hindoostan, in the SSH of Bundelcund; 2 miles W. S. W. of Allahabad.

Callington, is an ancient small borough town of Cornwall, England. Its situation is low, the surrounding country bleak and barren, and its houses are mostly small and different buildings.
buildings. Here is a cloth manufactory, which furnishes employment to some of the poor inhabitants. It has a weekly market on Wednesday, and two annual fairs. Callington being only a member of the parish of South-hill (where the church is situated) has a chapel of ease within the precincts of the town. The earliest mention of this place on record occurs in the time of Henry III. who in the 52d year of his reign granted the privilege of a market to Reginald de Ferrars, who was then lord of the manor. The town was constituted a borough in the 27th year of Elizabeth, when it obtained the privilege of sending two members to parliament, which right has continued to the present time. The borough is governed by a portreeve, but it does not possess any charter of incorporation. The elective franchises of the inhabitants are not clearly ascertained; but the present custom limits the right of election to the burgage-tenures paying rent and lot, and the number of voters is about fifty.

On the highest part of Hengeston-downs near Callington is St. Kit's-hill, which consists entirely of granite. Near the top, a thatch has been funk for digging tin, and it is found that the lode of ore is impregnated with wolfram united with quartz. Callington contains 145 houses, and 519 inhabitants. It is 216 miles W. from London.

CALLINICON, or CALLICINUM, in Ancient Geography, called also Leontopolis, a town of Asia, situated on the left of the Euphrates, near Niccephorium. Procopius informs us, that Cosroes, king of Persia, took and razed this place.

CALLICINUS, in Biography, a native of Heliopolis in Syria, who defected from the service of the caliph to that of the emperor, and who imparted the secret of compounding and directing the Greek fire, to which the deliverance of Constantineople in the two sieges, A. D. 716—718, has been ascribed. See Greek Fire.

CALLICINUS, surnamed Sutorius, was a native of Petra in Arabia; but spent the greatest part of his life at Athens. He wrote the history of Alexandria in ten books, quoted by Jerome, and published several other pieces on various subjects. He flourished in the reign of Antoninus. Suidas, vol. ii. p. 232.

CALLINUS of Ephesus, a very ancient Greek poet, said to be the inventor of elegiac verses; some specimens of which are to be found in the collection of Stobaeus. He flourished about 776 years B. C.

CALLINUSA, in Ancient Geography, a promontory of the isle of Cyprus, according to Ptolemy, marked on the chart of M. d'Anville on the northern coast towards the west. In some charts it is called "Cape Elieni," and in others "Alexandretta."

CALLIONYUS, in Ichthyology, a genus of fishes, in the order Piscis jugulare, the character of which is as follows: upper lip doubled, or folded in two parts; eyes approximate; branchiolegous, or gill membrane, with fix rays; aperture for breathing in the neck; gill covers shut up; body naked; ventral fin very remote.

The species of this genus are lyra, dracunculus, indicus, baikalenis, ochelatus, lagittia, and japonicus; which see respectively.

CALLIOPE, in Entomology, a South American species of Papilio, described by Linnaeus, and delineated in Clark's Icon. t. 41. and also by Seba and Cramer. The wings of this insect are yellow, with three streaks on the anterior pair, and three bands on the posterior ones of black.

CALLIOPE, in Ancient Geography, a town of Asia in Syria, which was one of the principal fortresses of the Parthians against the Medes, according to Pliny.

CALLIOPE, in the Pagan Mythology, the chief of the nine Muses, called by Horace Regina. The distinguishing office of this Muse was to record the worthy actions of the living; and accordingly she is represented with tablets in her left hand.

Such may be seen on the marble apotropaia of Homer, and upon the sarcophagi of the capital and of the Matterce palace, which represent the Muses. To Calliope, represented by some writers as the mother of the Corybantes and Syrens, but more commonly as the mother of Orpheus, is ascribed the invention of heroic poetry; and her name, according to Diodorus (Bib. Hist. I. iv. & viii.), was derived from her fine voice, ΑΤΙΟΝΙΟΝ. From this etymology it has been inferred that Calliope is the symbol of rhetoric and eloquence; but Ennius (II. A. v. i.) affirms that she was the emblem of heroic poetry, the most noble and most ancient species of poetry. As to her fine voice, she polished this talent in common with her other sisters. Upon the medals of the Pomponian family, she is designed by a head crowned with laurel, with a roll or volume from which strings are suspended, in the field of the medal.

CALLIPEDIA, the art of getting or breeding fine and beautiful children. The word is formed from καλλιπερα, fair, and κερατος, puer, either boy or girl. We find divers rules and practices relating to this art, in ancient and modern writers.

The Jews are said to have been so solicitous about the beauty of their children, that care was taken to have some very beautiful child (such as was Jochanan, the disciple of Judah, author of the Mishna) placed at the door of the public bath, that the women at going out, being struck with his appearance, and retaining the idea, might all have children as fine as he. The Chinese take great care of their breeding women, to prevent unclean objects of any kind from intruding their imagination; and musicians are employed at night to entertain them with agreeable songs and odes, setting forth the duties and comforts of a conjugal and domestic life, that the infant may receive before its birth good impressions, and come forth not only well-formed in body, but suitably dispossed in mind.

Callipedia, nevertheless, seems to have been first crested into a jilt art by Claude Quillet de Chillon, a French abbot, who, under the fictitious name of Calvifar Luetus, has published a fine Latin poem, in four books, under the title of Callipedia, esse de pulvis prolix bohanda ratione; wherein are contained all the precepts of the art. Paris, 1656, 8vo. & Lond. 1708, 8vo. It was translated into English verse by Mr. Rowe.

CALLIPHAES, in Mythology, one of the Ionides.

CALLIPAPA, in Ancient Geography, a fountain of Ephesus, so called by Piny, and denominated "Alita" by Pausanias.

CALLIPIDÆ, a people of Scythia near the Palus Mæotis. According to Herodotus they were a colony of Greeks, established in Scythia. Pomponius Mela alligns them the space that lay between the Axaces and the Issipan or Bogus.

CALLIPOLIS, denoting beautiful city, a name given to several towns, on account of the peculiar advantages of their situation or structure. Thus, Callipolis was the name of a city on the Chersonese of Thrace, near the Heleipont, and opposite to Lampfeaus. See CALLIPOLIS—Allo, a town in Sicily, on the eastern coast, north of Catana and of the river Aci—Allo, a town of Caria—Allo, a town of Magna Graecia, at the extremity of a peninsula in the country of the Salentins, in the gulf of Tarentum—Allo, a town of Poelponneus—Allo, a town of Greece in Attulia, separated from Naxopidea by a high mountain, called "Caraux."—Allo, a town of Asia, towards Galatia and Armenia. 51 —Allo,
—Also, a town of Spain, near the Mediterranean sea, between mount Sallus and Tarragona.

CALLIRHOE, is reckoned of sacred, beautiful, and cult., to Aphaea, a fountain of Greece at the gate of Calydon, in Corinth.—Also a fountain of Attica, called "Euniceiros," from its spring for channels.—Also, a lake of Achaia in Methone, near which was seated the city of Antioch—Also, a mineral fountain of Palestine, before the town of that name, and the fortress Machera, according to Pliny.—A city of Arabia, included in the territory of Moab, near the Alphabite lake, and famous for its warm baths. According to Jophus, Herod the Great, in his ill health, was conveyed hither. Ptolemy places it on the coast of Jordan and of the Dead Sea.

CALLIRHOE, in Entomology, a Fabrician species of Papilio, (Don, Canl.) peculiar to Achaia. The wings are entire, with the tip of the anterior pair, and six spots on the posterior side, black.


Gen. Col. perianth three-leafed: leaves linear-lanceolate, keeled, erect, permanent. Corol. petals three, lanceolate, acuminate, erect, spreading at the top, the length of the calyx. Stam. filaments three, capillary, longer than the corolla, dilated at the top into a roundish lamina: anthers double, globular, fixed to the inside of the lamina. Pylg. germ superior, oblong, compressed: style capillary, the length of the stamens: stigma three, spreading, pencilled. Peric. capsule, egg-shaped, compressed, acute, two-celled, two-valved: valves contrary. Seeds two, roundish. Nearly allied to commelina, and differing from it chiefly in the want of the three barren filaments, tipped with forked-flanged glands, called nectaries by Linneus.


"Flowers axillary, nearly sessile; stem smooth." Lam. Illust. Root annual. Stem herbaceous, tender, creeping from the joints, rather erect at top, a little branching at the base. Leaves alternate, egg-shaped, acuminate, somewhat heart-shaped at the base, thickened, thick-filied, growing near together as they approach the top of the stem. Flowers small, generally three together from each sheath of the upper leaves, tender, greenish. 2. C. umbellulata. Lam. Pl. 35. fig. 2. "Little umbels lateral and terminal; stem downy near the top; peduncles downy," Stem branched. Leaves egg-shaped, acuminate, petiolate; but those near the top of the stem sessile and lanceolate, thicken. Umbels simple, from two to five-flowered, but the flowers are occasionally single, flowers on rather long pedicels, densely. Description formed from La Maree's figure. Both the species are natives of South America and the West Indies. The first was introduced into England in 1776 by Dr. Tolerghil.

CALLISTA, in Botany, a genus formed by Lourieo for a parasitical plant which grows on the trunks of old trees, and which might have been referred to Ephedreum. He gives it the following character. Clas and order, gynan- dria monandria. Cal. none, but instead of it several ovate-lanceolate scales. Cor. petals five, spreading; three sese花 ovate-oblong: two opposite, unciliated, large, swelling at their base. Nectary tubular, within the petals and attached to their base, large, two-lipped: upper lip, oblong, fleshy, with two horns at its base; lower lip, entire, downy, funnel-shaped. Stamina one, attached to the upper extremity of the nectary; anther opculate, two-lobed. Pylg. germ inferior, twinned, thread-shaped, style and stigma none, unless we consider as such a furrow which passes from the stamen to the germ. Fruit generally abortive. Root a linear bulb. Stem thick, furrowed. Leaves alternate, lanceolate, entire, fritiated, thick, hard, sheathing. Flowers white, in long, lateral, drooping, simple racemes. Bosc. Nouv. Dict.

CALLISTHENES, in Ancient Geography, a name formerly given to an island of the Grecian Archipago, afterwards called Theria, and now Santorin, which lies...
the battle between Darius and Alexander. He composed
many other historical works, which are not now extant.
The most considerable was, a "History of Greece," com-
prehending 50 years from the peace of Antalcidas. He
also wrote a "History of the Trojan War." A "Periplus," 
"Pericles," "Macedonies," "Thracies," and "Metamor-
phoses," are also ascribed to a writer of his name. His
"Apolooptieas" are also mentioned; among which was a
faying formerly famous in the schools—"that human life is
governed by fortune, not by wisdom." Arrab., ab. supra.
Plutarch in Alex. spud oper. t. i. p. 635. &C. Quintus
Bilog.

CALLISTIA, Kalldiæ, in Antiquity, a Lacedaemonian
feast, wherein the women presented themselves in Juno's temple,
and the prize was assigned to the fairest.
The word is formed from 4|a|o|a|o|a|o|a, beauty, q. d. beauty's
rewards. The like contest of beauty was held at the festi-
fal of Ceres Eleusinæ, among the Partholanae, first set on
foot by Cyphbus, whose wife Herodice was honoured with
the first prize. Another obtained among the Eleians, where
the contest was among the men, the most beautiful of whom
was presented with a suit of armour, which he consecrated
to Minerva, to whose temple he walked in procession,
adorned with ribbons, and crowned with a myrtle garland,

CALLISTRATIA, in Antiquity Geography, a town of Asia
in Galatia, according to Ptolemy; but it rather belongs to
Paphlagonia. It was situated on the coast of the Euphrat
sea, S. E. of the promontory of Caramus, and S. of that of
Zephyrium.

CALLISTRATUS, in Biography, an Athenian orator
who flourished about the year B.C. 340. After having
acquired great reputation and authority in the government of
his country, he shared the fate of others of a similar de-
scription, and was banished. He is probably the same per-
son that is mentioned by Demophones (Orat. adv. Polycem.)
who was banished to Methone in Megapotamia, and whom
the Athenians had twice condemned to death. The succees
of his pleading in a public cause of importance, which
Demophones attended in his youth, and the glory acquired
by it, induced this young disciple of Plato to abandon the
studies of philosophy, and to devote himself entirely to that
of oratory. Callistratus is said to have manifested great ab-
horrence when, under a sentence of exile, some person ex-
pressed a wish, that the Athenians might soon be obliged to
release the exiles. Similar to this was the conduct of Ru-
tilius, who retorted against one who proposed to comfort
him by representing to him, that a war would soon break
out, which would occasion all the exiles to return; "What
have I done to thee, that thou shouldst wish me a return
worse than my banishment? I chuse rather that my coun-
try should blush at my banishment, than mourn at my return,"—Plut. in Demophoen. spud opera, t. i. p. 817. Se-
necia de Benef. i. vi. c. 57. Gen. Dict.

CALLISTUS, Johannes Andronicus, a learned
Greek philosopher, was a native of Thasus, and settled at
Conflantinople, where he was a professor of the Peripatet-
istic philosophy, and acquired a high reputation for learn-
ing. Upon the capture of this city in 1453, he fled with
many others into Italy, and fixing his first residence at Rome,
taught the Greek language and read lectures upon Aristotle's
philosophy. From hence, for want of due encouragement,
he removed to Florence, where he had a vall concourse of
disciples. After spending several years in Italy, he closed
his life in France. Callistus was one of those learned Greeks
to whom we are indebted for the introduction of learning
into the west. Some Greek MSS. bearing his name are
still extant; and particularly one in the royal library at
Paris, entitled, "A Medley upon the Miracles of Con-
flantinople." Some philofophical and moral pieces in MS.
are also ascribed to him. Log. Dict.

CALLITHRICHES, in Botany (from saba, and $t, fine
hair, but there does not appear any peculiar propriety in the
appellation). Linna. Sp. Pl. Chas. and order, monandria
jed. Vent.

Gen. Ch. Cal. none. Cal. petals two, incurved, acumi-
nate, channelled, ovate. Sem. filament one, long,
recurved: anther simple. Pet. germ roundish; styles two,
capillary, recurved; stigma acute. Peric. capil. roundish,
none; unless the proper tune of the seeds he so called. Seeds
four, naked, semi-elliptical, lenticularly composed, furnished
on the outer side with a broadish membranous margin,
disposed in a kind of compressed rows so as to appear in
pairs, of a pale blue colour. Gart. Dr. Smith.

four, composed, with a winged margin on one side.

Obf. The corolla of Lisanus and the English authors, is
considered by La Marec, Jussieu, &c. as a two-leaved
calyx.

c. 614. Lenticula, L. eff. Pruf. 140. tab. 38.) Water-flat-
wort, or flat-headed water-chickweed. Annual. Roots
fibrous, simple. Stems slender, branched, leafy, smooth;
floating by means of its thickest broad upper leaves, till the
perigeanation is accomplished; then each flower sinks, by
the elongation of the top of the stem, where new ones are
produced, and finally the whole herb subvides to the bottom,
takes root there, ripens, and sows its seeds. The young
plants soon rise to the surface, and appear to be nourished
from the water by simple slender roots from each joint of the
stem, which do not reach the ground till the plant subvides.
The earlier leaves are opposite, spinula-flapped, entire,
three-nerved; but those produced in autumn, after the herb
sinks, are linear, single-nerved, and cartilaginous, which occasioned
the distinction of this species into two. Flowers, axillary,
spatulate, sepalis, small, whiffih. Dr. Smith. If the chiefs
Polygamy were preferred, as established by Linnæus, this plant
would indisputably belong to it, some of its flowers being
hermaphrodite, others with only staminata, and others with
only pistils. Lisanus states the flowers of his autumnales
to be all hermaphrodite, but, according to Dr. Smith, the
plant does not flower in that state. Difficult seems to have
been the first that doubted whether there were more than
one species. See this edition of Ray's Synopses. Very
common in England, and the greater part of Europe, in
ditches and standing waters.

CAllithriches, in Zoology, the name under which the
green ape of the English writers (Simia saba of Schrèber
Saucuth) is described by Buffon.

CAllithrichum, in Botony. (J. Bauh. Morif. Ray.)
See Melissa pyrenaica.

CAllithrichus, in Zoology, synonymous with Call-
ithrix, a fort of monkey of a yellowish green colour,
with black flatish face, called by Pennant the green monkey.
This is the animal named Simia sabae by Schrèber. See
Simia Sabæa.

CAllithrix, in Zoology, Simia callithrix magnitudinis
magnorum cynomorphorum, Alpin. Aeg. See Simia
Silenus.
CALLIXENUS, in Botany. (La Mareck, Juff.) See Eucalptus.

CALLIXTUS, or CALLIXTUS I., pope, in Biography, succeeded Zephyrinus in the year 210. Some have said that he built a church to the memory of the Virgin Mary, which is now known by the name of Santa Maria in Trastevere, or St. Mary beyond the Tiber; but it is more certain that he enclosed a large piece of ground in the Appian way as a burying-place for the Christians. The story of his martyrdom, with its attendant circumstances of cruelty, is not very probable, as Alexander Severus was tolerant and favourable to the Christians. He died in 233. Bower's Hist. of the Popes, vol. i.

CALLIXTUS II., pope, was Guy of Burgundy, the son of William the Great, count of Burgundy, and nearly related to the emperor Henry. Before his election to the papacy he was ambassador to Vienne and on the death of Gelisius at Cluny, in 1119, he was unanimously chosen to succeed him by all the cardinals, except those who were of the emperor's party, who adhered to the anti-pope Maurice Brunus, or Gregory VIII. This was a happy choice both for the church and state. Soon after his election, Callixtus held a council at Rheims, in which the emperor, who refused to renounce the right of investiture, was solemnly excommunicated. From Rheims the pope repaired to Ghent in Normandy, in order, by means of an interview with Henry, king of England, to mediate a reconciliation between him and Louis king of France; but his conciliatory efforts were ineffectual.

From Normandy he passed over into Italy, and having obtained some forces from the Norman princes in Apulia, he besieged his rival Bordin, who had retired to Sutri, took him prisoner, and thus terminated the schism. Earnestly desirous of peace with the emperor, he went legates to Germany, and a peace was concluded at a general diet held at Worms, in 1122. The emperor was allowed the right of receiving an oath of allegiance from bishops and abbots elected, and of conferring on them the regalia, for which they were to do him homage; whilst he consented to surrender the ceremony of investiture, both to the ring and crozier, which was regarded as an emblem of the sovereignty of spiritual authority. The articles of agreement, settled by the pope and emperor, were approved by the general council held at Lateran in the following year, and remain still in force. After a pontificate of nearly six years, this pope died in 1124, and left a great character for moderation and liberality, and a just impression of the canons. Thirty-six letters of this pope are preserved; and other works in MS., on the miracles of saints, are attributed to him. Bower, vol. vi. Motheim, Ecc. Hist. vol. iii.

CALLIXTUS III., pope, was advanced to the pontifical chair in 1455, at the age of 76 years. His name was Alphonso Borgia; he was descended of an ancient family, and born at Nativa, in Spain. Before his election he was secretary to Alphonso king of Arragon, and employed in terminating the schism occasioned by the anti-pope Clement VIII.; and for this service he was preferred by pope Martin to the see of Valencia. Immediately after his elevation to the papacy, he exerted himself in restraining the progress of the Turks under sultan Mahomet II., who had taken Constantinople, and threatened all Christendom. For this purpose he fitted out a small fleet, which retook some of the islands of the Archipelago; and by means of a crusade, which he caused to be preached throughout Europe, he raised a considerable army, which was committed to the conduct of the famous Hunkiards. Notwithstanding a victory obtained at Belgrade in 1456, which obliged Mahomet to raise the siege of that city, and the remembrance of which the pope immortalized by ordering the festival of the "Transfiguration of Christ" to be religiously observed throughout all the western world, the Turkish army proceeded in its conquests. The pope's attention was soon occupied by other concerns. Having ambitious designs in favour of his nephew, whom he had created duke of Spoleto, he quarrelled with his former patron the king of Arragon, and refused to grant to his natural son Ferdinand the investiture of the kingdom of Naples. On the decease of Alphonso, he declared openly against Ferdinand, and would have kindled a civil war in the kingdom, if his death, which happened in 1458, had not prevented it. Callixtus is represented by contemporary writers as a man of abilities, of great address and experience, and one of the best canonists of his time: but like other popes, he was betrayed into improper conduct by nepotism. His only literary remains are some epistles and bulls. Bower, vol. vii. Motheim, vol. iii.

CALLO, in Geography, a plain in the jurisdiction of Quito, South America, so called from a palace of the Incas, which bears this appellation, and the ruins of which are still seen at the extremity of the plain running northward from Lataguina. See Quito.

CALLO-port, lies on the coast of Chili, in the south Pacific Ocean, four leagues N. from Solango island. See lat. 1° 10'. W. long. 86° 0'.

CALLONIA, in Ancient Geography, a town of Sicily, according to the Itinerary of Antonine, thought to be the same with the Caulonia of Steph. Byz.

CALLONITIS, in Geography, a country of Asai, in Affyrin, on the confines of Media, near mount Zagrus.

CALLOO, a fortress of the Netherlands, on the Scheldt, where the Dutch were defeated by the Spaniards in 1638; five miles W. of Antwerp. See lat. 51° 15'. E. long. 4° 19' 10".

CALLOSA, in Entomology, a species of Arts of a shining black-blue colour, with a white lip, and callous dot of the fame on each side of the thorax, before the wings. This is an insect of small size, and inhabits Italy. Fabricius.

CALLOSITY, in Surgery. See Callus.

CALLOSUM corpus, in Anatomy, denotes a whitish hard substance, joining the two hemispheres of the brain, and appearing when the two hemispheres are drawn back. See Brain.

CALLOT, JAMES, in Biography, a celebrated draughtsman and engraver, was descended from a noble family, and born at Nancy in Lorraine, in 1593. His passion for the arts was so strong, and discovered itself at so early a period of his life, that at the age of 12 years, he secretly left his father's house, and determined to seek improvement in Italy. But being delinquent of money, he joined a company of Bohemians (or of rolling gypsies), with whom he travelled as far as Florence. Here he was taken notice of by an officer of the grand duke, and placed for instruction under Remigio Canta Gallina, who was both a painter and engraver. When he left Gallina, he purposed his journey to Rome; but meeting with some merchants from Nancy, who knew him, they took him back to his family. Soon after he made a second elopement, and from Turin he was brought home by his brother. At length, his father finding that his inclination for the arts was invincible, acquiesced in his indulgence of it, and sent him to Rome; where he industriously applied to drawing, under Giulio Parigi. Being desirous of acquiring a faculty in handling the graver, he put himself under the instruction of Philip Thomassin, and having made considerable improvement, he afterwards went to Florence.
rence, where he was employed, and particularly encouraged by the great duke Cosimo II. At this city he first began to etch, and he executed several small subjects with great success. Upon the death of the duke, for whom he performed many curious works, he returned to Nancy, married, and became a great favourite with the duke of Lorraine, who granted him a pension. In this interval of his life, he designed and engraved the siege of Breda; and at Paris he engraved for Louis XIII. the sieges of Rochelle and of the island of Rhé, and several others. On occasion of the troubles of Lorraine, which terminated with the siege and capture of Nancy, he determined to return with his wife to Florence; but death prevented the execution of his purpose, March 28, 1635.

After the reduction of Nancy in 1632, he was desired by Louis XIII. to draw and engrave the siege of that place; but this business he declined, alleging, that he did not think it consistent with the respect which he entertained for his prince, and the love which he bore to his country, to represent anything that should appear to their disgrace. When a counsellor insisted on his gratifying the king's wishes, and enforced the requisition with a menace, that he should be compelled to obey, he boldly replied, "I will sooner disable my right hand, than be constrained to do any thing contrary to my honour." The king was pleased with this magnanimous reply, and offered him a pension of 3000 livres if he would attach himself to his service. Callot gracefully refused the offer, preferring the love of his country to the amassing of a fortune.

This artifl engraven in several styles: the first of which was an imitation of his master Costa Gallina. He afterwards worked altogether with the graver; but without success. His next style was the mixture of the point and the graver, with coarse broad hatchings in the shadows. But his best manner is that, which appears to have been executed with the greatest freedom, by which he has expressed, as we may say, with a single stroke, variety of character, and correctness of design. He is said to have been the first who used hard varnish in etching, which has been found much superior to that which was before adopted. The fertility of invention, and the vast variety, found in the works of this excellent artist, are astonishing. It could hardly have been supposed possible to combine so great a number of figures together as he has done, and to vary the attitudes, without forced contrivance, so that all of them, whether single figures or groups, may be easily distinguished from each other, even in the marks of shadow; more especially when it is considered, that they are often exceedingly minute. On a cursory view of some of his most admired pieces, the whole appears confused and without harmony; but a careful examination discovers the riches, the beauty, the taste, and the judgment which are bestowed on the disposition of the figures, the management of the groups, and the variety and propriety of the attitude. The works of this master are very numerous and various. In representation of all the varieties of human life, from beggars and peasants to knights and nobles, he excelled; characterizing all with the nicest touches of nature. Of his subjects many are of the most painful and shocking kind, such as public executions, the miseries of war, and the like; many are grotesque and fantastic, and exhibit a strong imagination.

The number of Callot's works is fixed to amount to 1500 prints. His etchings are most esteemed, and collections of them are deemed very valuable. Strutt enumerates the following prints; viz. "The Murder of the Innocents," of which that engraved at Florence is the most rare; a fine impression of it being found withdifficulty:—"The Marriage of Cana in Galilee," from Paolo Veronese;—"The Passion of Christ," the first impressions of which are very scarce;—"St. John in the Island of Palma;"—"The Temptation of St. Anthony;"—"The Punishments," exhibiting the execution of several criminals; and—"The Miseries of War;"—"The Great Fair of Florence;"—"The Little Fair," otherwise called "The Players at Benti," one of the most rare of Callot's prints;—"The Tilting, or the New Street at Nancy;"—"The Garden of Nancy;"—"View of the Pont Neuf;"—"View of the Louvre;" and "Four Landscapes." Callot was very regular in his mode of living, and exact in his religious observances. Feibehn, Strutt.

CALLOUS, in Surgery, denotes indurated or hardened. See CALLUS.

CALLOUS, egg., ova callosa, the longer and better form, supposed to contain male chicks; having a denser white, and a richer flavour than the rest. See EGG.

CALLULO, in Geography, a town of Asiatic Turkey, in the province of Diarbekir; 60 miles N.W. of Rabba.

CALLUNDBORG, or KALLUNDBORG, a town of Denmark; 60 miles W. of Copenhagen.

CALLUS, in Surgery, is a preternatural hardnes or in-duration of any fleshly part of the body; and, not frequently, this term is applied to the sub stance by which fractured bones are spontaneously united to each other. In this latter sense, we say, "the callus has not formed;" i.e., the bony union is incomplete; "the callus is exuberant;" i.e., the ositive matter is very abundant. A callousy, or preternatural hardnes of the skin takes place either from external friction (as in the formation of CORNS), or from an internal cause, which probably consists in a morbid action of the exhalent arteries. In the hard and thickened state of the skin which constitutes the disease named a CORN (which see), there is found to be an accumulation of dry cuticular substance, in numerous layers, somewhat resembling an onion. The lamina of horny cuticle which forms on the hands and feet of hard-working people, is entirely devoid of fenfation, and may therefore be scraped or cut with impunity.

Mr. Leeuwenhoek examining the callus formed on the hands and feet, observed that it was a sub stance composed of several layers of particles so loosely connected, that it was a wonder they could hang together; on putting a piece of this into fair water, after it had stood a considera ble time to steep, he found that the particles of which it was composed, would easily separate from one another with a little touch of a quill, and these separated particles put into a drop of water, and examined before the microscope, were found to be all of the same regular shape, which was like that of a veaver's thistle, being broad in the middle, and pointed at each end, with a line in the middle like those upon the uppermost, or outside skins of fruits, or of our bodies, but generally irregular. These pieces were thick in proportion to their size; and when they are put into water, and separated again, they naturally form a great number of other particles, all of which are of the same regular figure with the original piece. Phil. Trans. Needs. vol. 73, p. 160.

By this we see the reason of the increase of thickness of the skin of the hands of those labour hard, and of the feet of such people as walk much, which is wholly owing to the addition of a vast number of these thistle-like particles, which form combinations together; but these so loosely, that it is no wonder they are so easily separated on moulding.

The way to avoid such callousness of the skin is to wash and
callus, when pieces of bone is in reality nothing more than a kind of fibrous tissue formed by a process of nature very similar to the growth of any other part of the body; but the ancients had an idea of barley callus being formed by the cutis, and gradual concretion of a glutinous matter, like the white of an egg; and they supposed that all fractured bones were glued, as it were, by the intervention of this jelly, as two boards are glued together by a carpenter. See Fracture.

To facilitate the growth of callus on the union of broken bones, the patient should take strengthening remedies, and be put on a generous diet; and if this does not produce the intended effect, the broken extremities of the bones may be rubbed together, or friction may be kept up externally, so as to cause a moderate degree of inflammation. Several surgeons, on finding that a fractured bone would not unite, have made an incision down to the bone, and fawn off a portion of it, or rasped it with a rough file, in order to excite the vessels to action; in some of these cases the offish process has been revived, and a union has taken place, but generally this experiment has failed, as the growth of bone is more slow and difficult to produce than the regeneration of soft parts, on account of their difference in structure.

CALLYCHTHIS. See Callithyris.

CALLIDUM, in Ancient Geography, a strong cove of Asia Minor, situated on one of the limbs of the mount Olympus in Phrygia.

CALLIONIMUS, in Botany. (Cf. Hor.) See Convolvulaceae mollis.

CALLYSIND, in Geography, a river of Hindoostan, which runs into the Chumbul, in the circuit of Kotta.

CALM, in Sea Language, that state of the air and water when there is no wind stirring. A calm is more terrible to a sea-faring man than a storm, if he has a strong ship and cabins有足够的; for under the line executive boats sometimes produce such dead calms, that ships are obliged to lay two or three months without being able to flit one way or other. Two opposite winds will sometimes make a calm. This is frequently observed in the gulf of Mexico, at no great distance from the shore, where some gale or land wind will to pose the general calmerly wind, as to produce a perfect calm.

Calm are never so great in the ocean as in the Mediterranean, by reason the flux and reflux of the former keep the water in a continual agitation, even where there is no wind; whereas there being no tides in the latter, the calm often makes the sea extremely still, that the face of the water is as clear as a looking-glass; but such calms are almost constant presages of an approaching storm. The coast about Smyrna, a long calm is reputed a prognostic of an earthquake.

When a ship is close under the ice of another, the windward vessel is said to be calm under the lee. A ship is also said to be calmed when near the land, which keeps the wind from it.

It is not uncommon for the vessels to be calmed or becalmed, as the sailors express it, in the road of the Levantine winds, in places where they ride near the land. Thus between the two capes of Cape Verde: the wind, and Cape Antonio in Cuba, the sea is narrow, and there is often a calm produced by some force of a land-wind, that poseth the Levantine wind, and renders the whole perfectly still for two or three days.

In this case, the current that runs here is of use to the ships, if it sets right; when it sets to the right, a ship will have a passage in three or four days to the Havana; but if otherwise, it is sometimes a fortuitous or three weeks fails; the ship being embayed in the gulf of Mexico.

When the weather is perfectly calm, no wind at all stirring, the sailors try which way the current sets by means of a boat which they send out, and which will ride at anchor, though there is no bottom to be found, as regularly and well as if fastened by a strong anchor to the bottom. The method is this: they row the boat to a little distance from the ship, and then throw over their plummet, which is about forty pounds weight; they let this sink to about two hundred fathoms; and then, though it never reaches the bottom, the boat will turn head against the current, and ride as firmly as can be.

Calm Latitudes, are situated in the Atlantic ocean, between the tropic of Cancer, and the latitude of 29° N.; or they denote the space that lies between the trade and variable winds, because it is frequently subject to calms of long duration.

Calm Point, in Geography, lies on the N.W. coast of North America, within Bristol bay, on the north side.

CALMAR, a sea-port town of Sweden, in the province of Smalnd or Smoland, near the Baltic Sea, separated from the isle of Oeland by a strait, about seven miles broad in the narrowest part, and strongly fortified by walls, ditches, a castle, and redoubts. It is about a mile in circumference, and contains 450 houses. The streets cross each other at right angles. The inhabitants carry on a small trade, exporting chiefly planks, alum, and hemp, and poffels, besides small craft, about 70 vessels, from 100 to 300 tons burthen. Near the town is the castle, standing on an eminence, and the only remains of its ancient magnificence. The building has been constructed at different intervals, and exhibits a motley mixture of Gothic and Greek architecture. Over one of the doors is an inscription, John III. 1568. But part of the manor must be much older, as the apartment in which the deputies of the three kingdoms, Sweden, Denmark, and Norway, used to assemble for the election of their common sovereign till 1616; it is 44 feet long and 30 broad. This palace, once the residence of the celebrated Margaret, and remarkable in the history of this country, is converted into a distillery. Calmar is celebrated for the union, which took place in it, in 1397, and which stipulated, that the same monarch should rule over Denmark, Sweden, and Norway, and be chosen by the deputies from the three kingdoms assembled at Calmar. During the whole period in which these regulations subsisted, Sweden was a tributary kingdom to the sovereigns of Denmark;
mark; the union was upheld by the vigour and abilities of Margaret; but under her weak and unwarlike successors, it entailed on Sweden all the horrors of foreign invasion and intestine discord. From this state of alternate oppression and anarchy, it was rescued by the valour and prudence of Gustavus Vasa, on whom the gratitude of the Swedes conferred the dominion of the country which he had delivered: they renounced, in his favour, the right of electing their kings, and declared the crown hereditary in his male issue, A.D. 1546. See SWEDEN. N. lat. 56° 30' 30". E. long. 16° 24° 45'.

CALMET, DON AUGUSTIN, in Biography, a celebrated commentator on the Bible, was born near Commerci, in Lorraine, in 1672, and became a Benedictine of the congregation of St. Vannes, in 1688. Having passed through the usual course of philosophy and theology, he was employed in teaching them to the younger part of the community, till in 1704 he settled as sub-prior in the abbey of Munster, in Alarce, where he professed over an academy of 8 or 10 monks devoted to the study of the Scriptures. Thence he composed his commentaries on the Scriptures, published in French from 1727 to 1716. In 1718 he was appointed to the abbacy of St. Leopold in Nancy; and in 1728 he was elected abbot of Senones. The title of a bishop in partibus was offered him, but he declined accepting it. After a course of literary labour, in which he displayed great erudition and industry, though not always equal taste and judgment, he died, highly esteemed, in 1757. His principal works are, "A Literal Commentary on all the Books of the Old and New Testament," 23 vols. 4to.; reprinted in 26 vols. 4to. and 9 vols. folio; and abridged by Rondet, in 14 vols. 4to. "The Difficulties and Preface of these Commentaries, printed separately, with 19 new Differen-
tations," 3 vols. 4to.; "The History of the Old and New Testament," 2 vols. 4to.; reprinted in 4 vols. 4to., and 7 vols. 12mo.; "Historical, critical, and chronological History of the Bible, with Figures," 4 vols. folio; in which the matter of the commentaries is reduced to alphabetical order, in the form, and under the title of a dictionary, published in 1730, in 4 vols. folio. Although the author’s commentaries did not escape censure, and were treated by father Simon with a considerable degree of asperity and contempt, yet, being distinguished by moderation and exemption from polemical disputes, they were perused by Protestants as well as Roman Catholics; the work became very popular; and within a few years after its publication, there were several editions of it in French, Latin, Dutch, Italian, Spanish, English, and other languages; and it is still considered as a standard work. It has been much and desirably valued on account of many excellent elucidations which it contains of difficult passages in the Holy Scriptures, beautiful delineations of Oriental manners, and lively, entertaining histories extracted from authors little known even among the learned. A new and valuable edition of it with considerable retrenchments and additions, and a new set of plates, under the direction of Mr. C. Taylor, appeared in London in 1797, &c. The additions form a separate volume under the title of "Fragments," with a great variety of appropriate and well-executed engravings. Other works of Calmet are "Ecclesiastical and civil History of Lorraine," 5 vols. folio, reprinted in 5 vols.; "Catalogue of Writers of Lorraine, folio; "Univerfal History, sacred and profane," 15 vols. 4to.; "Difficulties on the Apparitions of Angels, Demons, and Spirits, and on the Vampires and Ghouls of Hungary," a small collection of reveries; and " Literal, Historical, and Moral Commentary on the Rule of St. Benedict," 2 vols. 4to. containing much curious in-
formation on ancient customs. Calmet deserves notice also as a writer on Hebrew music in his commentary on the psalms: as a small volume, entitled "Trofe d’Antiquitez," compiled from his sacred writings, not only concerning the music of the Hebrews, but ancient music in general, with representations of musical instruments, was published at Amsterdam, in 1722.

Ancient music, in general, is almost become an unprofitable and hopeless study; but that of the Hebrews, the most ancient of all, is now included within the confines of conjecture; and Don Calmet’s conjectures are, perhaps, as probable as those of any one of the numerous authors who have written on the psalms, and exercised their sagacity and ingenuity in expounding and defining what some have long since thought involved in crimson darks. However, Kircher, Merian, and Don Calmet, have thought otherwise: but whether they have taught their readers to see in the dark, as some animals are fappled to do, we are unable to say.

CALMENDA, in Geography, a town of Portugal, not far from Braga.

CALMINA. See CALAMO.

CALMINERA, Cape, lies on the coast of Coromandel, in N. lat. 16° 15’. E. long. 79° 47’. a few leagues S. of Negapatam.

CALMINI, a town of France, in the department of the Upper Garonne; 7 leagues S.S.E. from Toulouf.— Also, a town of France, in the department of the Averno; 2 ½ leagues S. of Rhodiz.

CALMUCS. See KALMUC.

CALN, EAST and WEST, two townships of Chester county, Pennsylvania, in North America.

CALNE, a market and borough town of Wiltshire, in England, is situated on the banks of the Marhm river. This ancient borough was endowed with peculiar privileges, previous to the Roman conquest, and according to the domesday-book it never yielded or paid taxes, ‘‘to that it is not known how many hides are therein.” The kings of the Wilt Saxons had a palace here; and from the names of Castle Street and Castlefield, it is generally imagined that a castle reared its massive walls in the neighbourhood of the town. Here was also an hospital of black canons, dedicated to St. John, and valued, at the dissolution, at 21. 25. 6d. per annum. Calne is an ancient borough by prescription, and lends two members to parliament, who are elected by fifteen voters; the first return was made in the reign of Edward I. The corporation consists of two guild rewards, who are chosen annually, and an unlimited number of burgesses. Previous to February 25, 1733, the privilege of election was vested in all the inhabitants having right of common; but it was then determined, that the power of choosing members resided with the ancient burgesses only; and that the right of returning members was in the guild rewards. The mayor, prebend, and parsonage of Calne, are held by knights for several lives, from the dean, chapter, and treasurers of Shriving. In the reign of Edward the martyr, a great synod or convocation was held here, at the instigation of Dunstan, archbishop of Canterbury, to determine the controversy between the monks and secular prelates, which had commenced in the synods at Winchester, and Caletoge, in Cambridge-shire. From the importance of the question, the principal nobility, as well as the bishops and seculars, attended. During the debate, while bishop Beorhthelm was pleading for the priors, the timbers of the assembly room gave way, and the structure fell to the ground; most of the seculars were buried beneath the ruins; but
but the rest of Dunfan, present of the synod, and chief advocate for the monks, alone flood firm. This circumstance, in that age of superstition, was continued into an interposition of Heaven in their favour; but subsequent writers have assigned a more natural reason, and have not hesitated to assert, that Dunfan had caused the beams to be cast abroad, taking care that his own flesh should remain fixed. This account seems, from the singular disposition of Dunfan, to be most probable. Calne has, of late years, greatly incresed in size and population; it contains 785 houses, and 3577 inhabitants, most of whom are employed in the manufacture of broad cloth, serge, and other articles of the clothing business. Here are three meeting-houses for Presbyterians, Aulbapists, and Quakers. The church is a large structure, dedicated to St. Mark, with a handsome square tower at the north-call end. The town is plentifully supplied with water from two streams, one flowing from the foot of the hills near the village of Caldon, the other from Cherhill; these rivulet unite, and run through the centre of the town, giving motion to many fulling and grist-mills. A Free school was founded here by John Bentley, esq. of Rich mond in Surrey; who, by his will, dated September 29, 1632, gave certain lands, called Frickett's Fields, adjoining to Lincoln's Inn, then worth about £50, for its erection and maintenance for ever. By the donations of Sir Francis Bradgman, knt. certain exhibitions are established at Queen's College, Oxford, for the benefit of boys born in the county of Wilts, and educated in this free-school. "The master to keep a regular grammar school, and teach seven boys the Latin and Greek tongues, and otherwise qualify them for the University."

About three miles east of Calne, on the side of the London road, is a monument, which attracts not only the notice of all travellers on this road, but also the observanee of people over the north part of Wilts, and many parts of the adjoining counties. This is the figure of a large White Horse, that was formed by parsing off the turf from the side of the chalk-hill; the horse is represented in a trotting position, and executed with a pretty correct outline; it was cut at the expense of Dr. Allsop, of Calne, about twenty-five years ago, and measurs from the head to the tail about 157 feet.

About two miles well of the town is Bowood, the seat of the marquis of Lansdown. The house is a large, commodious, but irregular structure, and contains some fine pictures, among which is a valuable collection of portraits of eminent characters. The park and pleasure grounds are extensive, and diversified with much beautiful scenery. A distinguished feature, and ornament of these grounds, is a large lake, which winding beneath some fine hanging woods, constitutes an interesting object; at the head of this lake is a singular picturesque cafeade, which, though wholly artificial, is sufficiently admired for its approximation to the irregularities of nature.

CALNEH, in Scripture Geography, a city in the land of Shinar, built by Nimrod, and at one time the seat of his empire (Gen. x. 10); supposed to be the Calno or Calno of Isaias (ch. x. 9) and the Channeh or Canneh of Ezekiel (ch. xxvi. 23.) Tho prophets join it with Haran, Eden, Affyrria, and Chilmin, which traded with Tyre; and hence it is inferred, that it must have been situate in Mesopotamia. It is said by the Chaldean interpreters, and also by Eusebius and Jerome, to be the same with Ctephphon, which was seated on the Tigris, about three miles distant from Seleucia, and for some time the capital of the Parthians. This opinion is confirmed by the name Chalomes, evidently derived from Chaline or Chalno, which was given by the Greeks to the country about Ctephphon. Wells's Geog. of the Old Testament, vol. i. p. 229.

CALOBRA, in Geography, the most considerable harbour in the island of Majorca, both for its secure entrance, and the fine country that surrounds it; as well as for the springs of fresh water that are near it.


Gen. Ch. Cal. perianth one-leafed, permanent, five-parted; segments egg-shaped, acute, befit with strong hairs on the outside; the edges slightly revolute. Cor. petals five, lanceolate, obtuse, spreading, channelled, keeled, waved, pubescent, three times the length of the calyx; nectaries five, fixed to the receptacle within the petals, and shaped like them, linear-lanceolate, aw-shaped at the tip, terminated by a gland, smooth, filery-glandular, narrower than the petals, but of the same length. Stam. filaments five, equal, the length of the corolla, one of them generally barren; anthers egg-heart-shaped, furrowed, fixed longitudinally to the filaments. Pist. capsule peduncule, egg-shaped, bluntly five-angled, befit with strong points, five-furrowed, five-celled, five-valved. Seeds in pairs, somewhat triangular, convex on the back, smooth.


The corolla, nectary, and filaments, all vary in the number of their parts, which are sometimes four, generally five, and very rarely six; so that in fact the capsule alone forms the essential character.


CALOGERI. Καλογέρος, or Caloysers, monks, or religious, in Greece, both male and female; inhabiting particularly mount Athens, but disseminated also throughout all the churches of the East. They follow the rule of St. Basil, and make vows like the western religious. Tourneroy says, the females are most of them only a more moderate sort of Magdalen's, who, as they grow old, make a vow to practice these virtues they had much neglected in their youth; and retire into convents to lead a life somewhat less scandalous than before, under the eyes of a superior or bczgumenos, who is far from being too severe.

Amongst these monks, whatever their name imports, it is not uncommon, says Somnini, (Travels in Greece, p. 228.) to meet with young boys, from 10 to 12 years old, clothed in their habit, which consists of a plain, long, black gown, confined by a girdle. These friars, he says, are very dirty, and very ugly, from the habit which they contract of neglecting their exterior, and of taking care neither of their beard nor hair. Their character, he adds, is formed of hypocrisy, haughty and gross ignorance, meanness and treachery; though they wish to be reckoned to possess great knowledge, and a reputation for sanctity, in order to secure from the people attention and respect. Their vows are obedience, chastity, and abstinence. The first and last of these vows
tows are observed with sufficient exactness; but the second is more generally disregarded; and some of them are accented a degree of brutality, in the infringement of laws which nature, more powerful than all the institutions of convicts, disfavors. The Caloeyes, in some places, are divided into Cacophobes, Anarchitases, and Acritases, or hermits; the life of which is the most severe and reclusive.

The Turks also use the word Caloeyer for their dervises, or religious mullahmen. See DERVIS.

CALOGERIZA, in Geography, a town of European Turkey, in the province of Bulgaria; 64 miles E. of Sofia.

CALOGERO, St. a town of Sicily, in the valley of Mazara; 216 miles E. of Mazara, and 2 N.E. of Saccra or Sciacca.—Also, a mountain of Sicily, one of the highest in the island, next to Etna, on the summit of which is a refuge of hermits.

CALOIGURO, St. a cape on the east coast of Sicily; 9 miles E. of Lentini.

CALOIERA, a small Greek island in the Archipelago; 5 leagues south of Andros.

CALOITIAM, in Zoology, a species of Trichoda of a broadish oblong shape, with shining horns on the anterior part. Mill. Hist. Verm. This kind is found in water where-in vegetables have been infested. It is flat, obtuse at both ends, with a black spot and a few bristles near the posterior extremity.

CALOMEL, in Pharmacy. See Mercury.

CALONE, in Ancient Geography, a place of Germany, on the route from Lugdenum Batavorum, to Argentorum, between Gelduba and Vetera. Tit. Anton. Collarins places it at Kalen-Hafen; but M. d'Anville refers it to a passag of the arm of the river Kelnet or Kendel. It was near the Rhine in Germania Secunda, S.E. of Colonie Trajana.

CALONERY POINT, in Geography, a cape on the east coast of the island of St. Vincent; one mile S. of Young Point.

CALONI, a town of European Turkey, in the island of Metelin, in a gulf to which it gives name, in which are two Greek convents.

CALONNEA, in Botany. (Buchoz.) See GALARDIA.

CALONOSOS, in Ancient Geography, a mountain of Arabia, at the entrance of the Persic gulf. Arrian.

CALOO SANIO, lies on the coast of Holland, between the Bodkil to the southward, and the coast Gatt channel to the northward.


Gen. Ch. Cal. four, two or one-leaved; leaves roundish, concave, coloured, deciduous, sometimes wanting. Cor. petals four, roundish, concave, spreading. Stam. filaments numerous, thread-shaped, short; anthers oblong, crept. Fil. germ superior, roundish; style thread-shaped, the length of the flamen, or none. Peric. drupe globular, fleshy. Seed; nut globular, rather acuminate, large.


Sp. 1. C. inophyllum, Linn. Sp. Pl. Gær. Tab. 43. fig. 1. La Marech, Pl. 450. (Ponna or ponna-maceam, Rheed. Mal. 4. Tab. 38. Rai. Hist. 1525. Bintangor maritima, Rumph. amb. 2. Tab. 71.) Arbor indica, mali medicea amphibris foliiis, Pluk. am. 41. Tab. 147. fig. 3. Inophyllum...
There are perhaps few subjects respecting which a more remarkable variability of general opinion has been evinced, than with regard to the existence or non-existence of this principle. Are the phænomenal effects of heat produced by the operation of a material fluid \textit{ad generis}, or is heat merely an affection of matter, confilting in internal vibrations and collocations of its particles, or in some other mode of corporeal action of which we are ignorant;—and is there consequently no such thing as caloric?

Zeno, it appears, conceived that heat was material. We have a curious discollation on this subject in Cicero's book, 

"De Naturæ Deorum," consisting of a dialogue between an epicurean, a platonick, and a flosick, respecting the Supreme Power, which the latter supposes to reside principally in the stars; and it is remarkable that the author has made speak of the materiality and nature of heat very nearly as we do at the present day. "That heat is combined with water," he says, "its liquefaction itself sufficiently proves, nor can it either freeze or congeal into snow or hoar-frost without suffering that heat to escape." 

"Even the air, however cold it may be, is by no means devoid of heat; indeed it is combined with a great deal of heat;" and more to this effect.

This indeed appears to have been the most general notion respecting this part of the subject till about the time of Lord Chancellor Bacon, who in his tractate "De Formâ Calidî" considers heat as the effect of an intellel motion or mutual collocation of the particles of the body heated; an expansive undulatory motion in the minute particles of the body, by which they tend with some rapidity towards the circumference, and at the same time incline a little upwards; which idea was also with some modification adopted by Descartes, Newton, Boyle, and the other mechanical philosophers of that and the succeeding age. The chemists, however, whole opinions, at least, poifles that degree of authority which arises from their being most used to the observation of the effects of this agent, seem to have still retained a strong notion of the materiality of heat, which, in consequence of our improvement in chemical science, again became general, and continued so till the experiments of Count Rumford, which appeared to shew that it was impossible and capable of being produced ad infinitum, from a finite quantity of matter, again threw some doubt on this question.

It is known that when water freezes, a portion of heat is given out by it during the congealation, which is so considerable, that if we were to conceive it to be transmitted to and imbibed by an equal quantity of water at the temperature of 32° of Fahrenheit's thermometer, the latter would be heated no less than 146°, or to 172°. If, therefore, heat were a ponderable substance, it might be imagined that a given quantity of water would become lighter when frozen in a vessel hermetically sealed. Count Rumford accordingly made this experiment with great care by the help of a balance of extreme accuracy; but the result was, that the ice produced appeared to be of precisely the same weight as the water had originally been of at the temperature of 61°, viz. 4214.28 grains, from which he infers, that all attempts to discover any effect of heat on the apparent weights of bodies will be fruitless.

The other deduction, of the possibility of producing an inexhaustible supply of heat from a given quantity of matter, was made from the following experiment. The Count caused a cylinder of brass to be turned 7½ inches in diameter and 9.8 inches long, which was bored like a cannon with a calibre 3.7 inches in diameter, and 7.2 deep, so that the bottom was 2.5 inches in thickness. The hollow cylinder contained 385½ cubic inches of brass, and weighed 113.13 lbs. avoirdupois. By means of the engine used for boring cannon in the arsenal of Munich, a blunt borer or flat-plate of hardened steel, 4 inches long, 0.63 inch thick and 3½ inches wide, was kept with one of its extremities, whose area was about 2½ square inches, pressed against the bottom of this hollow cylinder on the inside with a force of about 10000 lbs. avoirdupois, whilst the latter was turned about its axis with a velocity of 3½ revolutions in a minute. The cylinder was in one experiment covered on the outside with a coating of thick flannel to prevent the access of heat from the atmosphere; in another the borer was made to work through a collar of leathers so as to prevent the access of air also to the interior of the bore; in a third, the whole cylinder was immerced in water, the borer still working through a collar of leathers so as to prevent its access to the interior of the bore; in a fourth, the collar of leathers was removed, and the water had access to the bottom of the interior of the cylinder where the friction took place. The result was, that in all these cases heat was generated by the friction in sufficient quantity to cause about 264 lbs. of ice-cold water to boil in two hours and a half, or at about the rate at which it would have been produced by 9 large wax candles; the capacity of the brafs for heat, or its power of producing it by friction, did not appear to be diminished, and it seemed as if this generation of heat would have gone on for ever if the friction had been continued: the source was inexhaustible. Now, as any thing which an intacted body or system of bodies can continue to supply without limitation cannot possibly be a material substance, the Count's inference is, that heat is not of this description, but that it must be an effect arising from some species of corporeal action among the constituent particles of the body.

We will confess, however, that we conceive neither of these experiments nor any other with which we are at present acquainted to be conclusive in favour of the immateriality of caloric. Omitting the question, whether gravitation is essential to matter, we may observe that there may be an infinite series of material substancess, each a million of times rarer than the preceding, of which, though the weight of the heaviest be imperceptible by our nicest balances, the lightest may still be ponderable. Any instrument which we at present possess would fearfully enable us to detect the weight of a fluid which was only a thousand times lighter than atmospheric air.

The other experiment affords an argument against the materiality of this principle, to which it is perhaps somewhat more difficult to give a distinct and decisive answer; and yet, notwithstanding the precautions which were taken, it is by no means demonstrative, that the heat which was evolved was not derived from contact, for there is no abfinity in supposing, that a body may be receiving caloric in one state or at one part of it, and giving it out in another. We have an instance of the simultaneous attraction and emission of a subtile fluid, the materiality of which is admitted by every one, in the case of an excited electric, which at the same time receives the fluid from the rubber, and communicates it to the conductor. In Count Rumford's experiment we must recollect, that the whole apparatus was immerced in a great bath of caloric, the atmosphere.

With regard to this part of our subject, we ought also not to omit, that in another experiment of the fame author, heat was found to be communicated through a Torricellian vacuum. Now it is manifest, that in such a vacuum there could be nothing to communicate or propagate motion. Heat therefore must be material: the conclusion is almost physically certain. Without
Without further inferring, however, that we can conclusively demonstrate the existence of caloric, it at least appears upon the whole, that, in the present state of our knowledge, we ought rather to consider it as a material substanee, because of the two theories, that which supposes it to be 30 is infinitely the most intelligible, the most agreeable to the analogy of nature, and the least exceptionable; and we shall accordingly regard it as an elastic fluid or generator, capable of pervading with various degrees of facility, all the solid bodies with which we are acquainted, and of being imbibed and retained by them in different proportions according to their respective degrees of specific attraction or capacity for it. See Capacity.

It will easily be conceived that from the elasticity and power of pervading other substanees, which we have attributed to this fluid, it must necessarily follow, that whenever a body is by any means charged with a larger quantity of it than is proportional to its mass and capacity, when compared with those of other bodies in its vicinity, the surplus will be communicated to those other bodies, until the density of the fluid in every body in the system becomes equal; in like manner as a quantity of air thrown into one of a number of vessels communicating with each other will pass from it to the others, until it becomes distributed amongst the whole of them in proportion to their respective capacities, or till it becomes of equal density in all of them. This state of density or compression of the caloric, contained in a body, constitutes what is called its temperature; see this article.

The celerity and facility with which this fluid pervades different substanees is however extremely various, as may be shown by the following experiment. Take a small cylindrical earthen or wooden vessel, between three and four inches in diameter, and infert into it, through holes drilled in its bottom for that purpose, several wires, about an eighth of an inch in diameter, and fix or seven inches long, of equal size in every respect, but of different metals, as gold, silver, copper, iron, brass, and zinc; and also two small rods, one of glass and the other of wood, of equal dimensions with the wires, so that they may each of them project about half an inch on the inside of the vessel, the rest of them being on the outside, and forming a kind of stand for it. Dip a portion of the inferior extremities of these wires and rods into melted wax, so that they may become equally coated with it. When the wax has cooled, fill the vessel with a heated fluid, as boiling water or melted lead, and observe the intervals between the time of filling it and the melting of the wax, which intervals will indicate the relative conducting power of the substanees. Dr. Ingenhouz tried this experiment, though in a somewhat different manner, with wires of silver, copper, gold, tin, iron, steel, and lead, whose conducting powers lie conceived to be in the order in which we have enumerated them, though he found some differences in the results, except with regard to the silver and lead, of which the former always appeared to be the belter, and the latter the worst conductor. In the experiment which we have described it will be found, that the conducting powers of glass and wood are almost infinitely smaller than those of any of the metals which are the best conductors known. Fluids of every kind are almost perfect non-conductors; and light tenuous substanees, or such as contain fluids in their interstices, conduct heat with great slowness and difficulty.

This difference in the conducting powers of various substanees is the source of many pratical conveniences and inconveniences. The cellular texture of organized substanees enables them to withstand the effects of change of temperature in the atmosphere, by refluxing the passage of this fluid, and the wooden handle of a tea-pot, and the cloth made of for handling hot irons, are familiar examples of the economical application of this property. An iron door to a furnace will be red hot before the furnace itself, if of any earthly composition, is heated in any considerable degree. Large iron bars or cylinders are made to pass from the fire for the purpose of communicating heat to those whose which are constricted at the side of kitchen-ranges, and a poker put into a low fire improves it by promoting a similar communication amongst the different portions of the fuel through which it passes.

We will, in the next place, consider very shortly the effects arising from the condenation or rarefaction of this fluid in bodies. By the former their temperature is elevated, or they are heated; by the latter it is depressed, or they become cooled.

In our investigation of the most universal operations of nature we generally find that the more immediate instruments employed for the production of the effects which we perceive are two counteracting powers, by whose co-operation and mutual counterpoise the necessary equilibrium is preserved, and the purposes of their creation effected with greater regularity than would probably result from the employment of a single agent. Thus, gravity is, as we know, counteracted by inertia, that tendency which all bodies have to continue in a state of rectilinear motion, when once they are thrown into it by the impulse of force. The effects of cohesion, a no less universal principle than gravity, are in like manner restrained and modified by the agency of caloric; and, as without inertia all the celestial bodies would be drawn together into some one part of extended space, so, without heat all the matter in the universe would become a conglomerated and concrete mass; and fluidity, organization, vegetation, and life could have no existence. Solids become first expanded, and then liquefied by its influence, and liquids assume the aérical state. It is essential to the idea of a solid body, that it should in a certain degree resist both compression and dilatation, that is, that its particles should repel each other when brought nearer together, and attract each other when farther separated within certain limits, and it is incontrovertible, that they can only remain in a quiescent state by the equilibrium of these opposite forces. The latter of these constitutes cohesion, and the existence of the former is, perhaps, attributable to the substanee of which we are now speaking. Be this as it may, it is at least a fact, that the repulsive energies of these corpuscles are increased, and the sphere of action enlarged by its influence, for the body becomes expanded; that is, this equilibrium no longer takes place, unless its molecules are removed farther from each other than when it was at a lower temperature. Elevate its temperature still farther, and the body fuses; that is, the attractive power of its particles becomes annihilated or wholly counteracted, and they are only kept together like a quantity of shot by the action of gravity, operating independently on each. Incrassc still the action of heat on the body, and the sphere of repulsion of its particles, or the distance, to which this power operates, again becomes much farther extended, perhaps infinitely so; it is now sufficient to overpower the action of gravity, and the body becomes resolved into an effusive fluid. We know of no substance which is capable of refilling the power of this universal solvent. Gold itself may be expanded into vapour by the action of heat, and these effects are always producible by the same cause, so is it, at least, probable, that the converse of this is also true; that whenever a substanee is formed in a state of fluidity it is attributable solely to this cause, and that the abstraction of the caloric, by which it is holden in solution, would again reduce it to a solid. Mercury is, we know,
Concert, it four a all whereas, or trata enjoy their now town Geography, Lutheran per- town medal, round cality occasioninjj. It and Colonia (lyled famous the 1612, cup, and ca- the to fea-port Morungen, and Fribourg, and calotte, a species of Lacerta, with a long round tail, and the fore part of the back, and hinder a part of the hind dentated. Gumelia. This is the iguana cal- lotes of Laur. Amph. Its body is carunculate, with acute scales beneath, and lanceolate spinos on the back. Found in Asia, particularly in the island of Ceylon.

CALOTO, in Geography, a town and department belonging to the jurisdiction of Popayan in South America. The extent of this department is considerable; it is also rich, and abounds in the products of the earth; the soil being fertile, and the country every where interspersed with farms. But of all the parts in this jurisdiction, it is the most subject to tempests of thunder and lightning. This has brought into vogue "Caloto bells," which are used under a persuasion that they have a special virtue against lightning; and of which we have the following account. The town of Caloto, the territory which contains a great number of Indians, of a nation called "Paezas," was formerly very large; but these Indians, suddenly affailing it, forced their way into it, set fire to the houset, and massacred the inhabitants. Among the slain, was the priest of the parish, who was the particular object of their rage, because he exposed the folly and wickedness of their idolatry, and the turpitude of their vices; nor did the bell of the church escape their rancour, as by its found it reminded them of the hours for receiving religious instruction. After many fruitless endeavours to break it, they determined to bury it under ground, that they might not any more be reminded of their duty, and abridged of their liberty. On the news of their revolt, the Spaniards, in the neighbourhood of Caloto, took arms, and having avenged themselves of the insurgents in a battle, they rebuilt the town, and having taken up the bell, placed it in the Recole of the new church; since which event, the inhab- itants, to their great amonishment and joy, observed, that when a tempest appeared to be blowing in the air, the rolling of the bell dissipated it. The news of this imagined miracle induced many persons to solicit pieces of it to make clappers for little bells, in order to enjoy the benefit of its virtue, which, in a country peculiarly subject to tempests, was deemed highly advantageous. To this circumstance Caloto owes its reputation for bells. Adam's Voyage to South America by Juan and Ultrà, vol. i. p. 342.

CALOTTE, a cap, or coil of hair, fattin, or other fluff; used first for necessity, but now become an ecclesi- astical ornament in France.

It was first worn by cardinal Richelieu: the red calotte is a badge of a cardinal.

CALOTTE, in Architecture, a round cavity, or deprefure in form of a cup, or cap, lathed and plaistered, used to diminish the rise, or elevation of a chapel, cabinet, alcove, &c. which, without such an expedient, would be too high for other parts of the pile.

CALOUD, in Geography, a town of Hindooftan; in the fouth of Dowalatabad; four miles W. of Carballa, and 210 N.W. of Hydrabad.

CALOVIUS, ABRAHAM, in Biography, a Lutheran divine, was born in 1612, at Morungen, in the duchy of Brunswick, and became doctor in theology at Rollock, in 1637, and theological professor in that University. In 1643, he was made rector of the college at Dantzick; and in 1650, professor of theology at Wittenberg. He was the most rig- id divine of his party, and distinguished himself on a variety of occasions by his disputes with the reformed ministers, and particularly with Calixtus, of whom an account is given under the article CALIXTINS. Such was the part he took in this controversy, that those who enlisted under his banner were denominated "Calovians." He exercised the office of superintendent-general of the Lutheran churches, and continued his controversy warfare till his death in 1686. His works were numerous; they were chiefly polemical, and are now forgotten. Moreri. Molheim, E. H. vol. v.

CALP, in Mineralogy, a black quartz stone of Dublin, a species of basalt, found in large masses, of a bluish black, or dark-greyish blue colour, variously intersected with veins, of white calcareous spar, and often invested with the fame. In the direction of its flata it easily splits into large flags. Sp. gr. from 2.64 to 2.70. It effervesces with mineral acids; and at 150° melts into a black compact glass; contains 50 per cent. miscalx, the remainder being flixus, argil, and iron. This mineral seems to be the calcareous trap of La- fius, Hartz. 170. Kirwan's El. of Min. vol. i. p. 233.

CALPAS, in Ancient Geography, a river of Asia Minor in Bithynia, at a small distance W. of Sangarius. Strabo and Ptolomy.

CALPAS, CALPE, a sea-port of Asia Minor, in the Euxine sea, between Heraclea, and Byzantium in Bithynia.

CALPE, a mountain of Spain, in that part of Buctica which is now called Andalusia, opposite to that in Africa which bore the name of Ablya, and one of those which were called the "Columns of Heracles." At the foot of this mountain, towards the sea, stands Gibraltar. Calpe is flayed by Strabo a famous ancient Spanish sea-port; whereas, Pliny, Ptolomy, Mela, and others, only call it a mountain: whence the learned Bochart and Calafubon have thought, that the Calpe of Strabo was inflected, by the mixture of some transcriber, for Carteia. But it has been inferred by some learned persons, from an inscription on a medal, with these letters, C. I. CALPE, and "Colonia Julia Calpe," that Strabo's text is correct; and they further allege, that Ovidius overtook Caesar near the city of Calpia, which is the same with Calpe. We may therefore conclude, either that there were several cities situate at the mouth of the strait, on account of its advantageous situation, one of which was called Calpe, or Calpia; or else that the Carteia, which was situate near the promontory of Calpe, had Likewise taken that name from it.

CALPE, in Grecian Antiquity, a race performed by marcs,
which constituted one of the Olympic games. This race was instituted in the 71st Olympiad, and, together with the "Apenn," abolished in the 84th. In this race, the riders were accustomed, like the Anebatae, to leap from the backs of the mares towards the last slge or period of the course, and lying hold of the bridles, they finished the race in that manner. Well's Pindar, vol. iii. p. 143.

CALPENTEN, in Geography, an island in the Indian sea, near the west coast of the island of Ceylon, about 40 miles long and six broad. N. lat. 8°. E. long. 79° 50'.

—Also, a town of Ceylon, opposite to this island. N. lat. 8° 15'. E. long. 79° 50'. Perceval, in his "Account of the Island of Ceylon," (p. 107.) informs us, that a company or two of Malays is stationed here, and that when he left the island, it was commanded by a Dutch officer, who had entered into the English service, and who received this appointment from governor North. This, he adds, is one of the best places on the whole island for game; and between this and Putalam, at a small distance, the coast is remarkable for its salt-pans, which are formed by an arm of the sea which overflows part of the country between these two places. The Dutch manufactured, on this part of the island, a large quantity of salt, which they considered as very important to their interests, and the most formidable weapon which it was in their power to employ against the native king, who could not procure any salt but by their means. Since the English took possession of the island, this manufacture has been almost wholly neglected. It is capable, however, of being rendered very profitable, as it is the only one of the kind on this side of the island, and the most convenient situated for supplying the king of Candal's dominions.

CALPENY, one of the Laccadive islands, in the Indian Sen. N. lat. 10° 5'. E. long. 73° 29'.

CALPOLALPAN, a mountain in New Mexico, which abounds with quarries of jasper and marble of different colours.

CALPRENDE, Gautier de Costes, in Biography, a respectable writer of romances, was born in the diocese of Calors, and educated at Tolosane. In 1622, he entered into the regiment of guards at Paris, obtained a pension from the queen, and became gentleman in ordinary of the king's bed-chamber. The first pieces by which he made himself known as a writer, were composed for the theatre, and his "Mithrdates" appeared in 1635. He was, however, chiefly distinguished by his romances, in the composition of which he has the merit of invention. These were his "Caffandra," "Cloeopatra," and "Pharamond," each consisting of 10 or 12 large volumes in 8vo., which by their novelty, and the variety of adventures contained in them, attracted attention for some time, but gradually sunk by their prolixity into oblivion. He also wrote tragedies, of the best of which is his "Earl of Effex," from which Byron copied some scenes in his tragedy of the same title. His character was respectable, and he was employed in some foreign negotiations. His death was occasioned by an accident in August 1663. Nouv. Dict. Hist.

CALPURNIAN Lark, in Roman Antiquity, a law proposed by L. Calpurnius Piso, tribune of the people, in the beginning of the third Punic war, during the confiduph of L. Marcus Cæsarinus, and M. Manilius, A. U. 604; and widely designed to restrain the avarice and injustice of the Roman magistrates, by which the states, whom the givers of provinces had oppressed and plundered, were authorized to apply to the judges for restitution of what had been unjustly taken from them: hence called "De pecuniar repetundis." In consequence of this law, the tribune Calpurnius probably acquired the honourable surname of "Frigius," or honest man.

CALPURNIANA, in Ancient Geography, a town of Spain, placed by Ptolemy in Bithynia, in the territory of the Tunduli, and mentioned in the Itinerary of Antoninus.

CALPURNIUS, or CALPURNUS, Titus, in Biography, a Latin Sicilian poet, who lived about the latter part of the third century, under the emperors Carus, Carinus, and Numerianus. Seven of his elegues are extant: the first of which was composed on the accession of the emperor Carus, in which we may perceive, with pleasure and contempt, the effusions of congratulation and flattery. Two shepherds, avoiding the noon-tide heat, retire into the cave of Eaurus. On a spreading beach they discover some recent characters. The rural deity had defended, in prophetic verse, the felicity promised to the empire, under the reign of so great a prince. Eaurus hailed the approach of that hero, who, receiving on his shoulders the linking weight of the Roman world, shall extinguiish war and faction, and once again restore the innocence and security of the golden age. The design of this elegue is preferred by Fontenelle to that of Virgil's Pallas. But notwithstanding some agreeable description of rural objects, which marks these elegues, they manily the declining taste of the age by a want of purity in the style, and of nature in the sentiments. Editions of them have been given by Barthius, Hacor. 8vo. 1613; in the "Poete Ref Venet. Leyd. 1728, 4to.; and in the "Poete Latine minores," Leyd. 1751, 4to. Vol. Poet. Lat. Nouv. Dict. Hist. Gibbon's Hist. vol. ii. p. 93.

CALPY, in Geography, a town of Hindoostan, in the country of Agra, seated on the south bank of the Jumna river; 98 miles S. W. from Lucknow; 115 N. W. from Allahabad; 160 S. E. of Agra; 239 miles N. W. of Benares; 277 S. E. from Delhi. 821 N. E. of Bombay; 804 N. W. from Calcutta by Moorheadabad; 715 N. from Hydrabad. N. lat. 26° 15'. E. long. 80° 4'.

CALQUING, or Calking, a term in Painting, &c., used where the backside of any design is covered with black lead or red chalk; and the strokes or lines traced through on a waxed plate, wall, or other matter; by passing lightly over each stroke of the design with a point, which leaves an impression of the colour on the plate or wall. This method of off-tracing may likewise be performed by prickling the original print, or drawing, and transmuting coloured powder through the punctured holes, in order to mark the outlines of a new ground; or, by dissolving part of the printing ink by means of soap, and impressing it in that state on a fresh ground. See DESIGNING.

CALTAGE/RO, in Geography. See CALATAGIORON.

CALTARO, a town of Dalmatia, in the republic of Ragusa, 24 miles N. of Ragusa.


Gen. Ch. Cal. none. Corol. Petals five or more, egg-shaped, flat, spreading, deciduous. Stem. Filaments numerous, thread-shaped, shorter than the corolla; anthers crested, obtuse, compressed. Fil. germ superior, from four to fifteen or sixteen, crested, oblong, compressed; style none, frigmas simple. Peric. Capsules short, acuminate, spreading, opening at the upper or inner future. Seeds numerous, oblong, egg-shaped, smooth, affixed to the upper future in a double row.

CALTHA, in Flora, a genus of flowering plants. In the one, every flower is on a short peduncle, the lower and half of the lower, a little branched, leafy, and hanging. Leaves between heart and kidney-shaped, acutish, pubescent, villous, smooth, of a deep shining green. Leaves on long, hollow, semi-cylindrical peduncles, sometimes entire; the others alternate, and nearly sessile. Stipules brown, membranaceous, withering. Flowers in all their parts of a golden hue. Their flowers smaller, white, red at the edge. It is a natural habit with the preceding species, but is leaf in all its parts. Capsules triangular. Perennial. Found by Ghmich and Pallas in Siberia.

CALTHA alpina, Tab., A. 356. See Arctica montana. CALTHA, B. Zey. Tab. 22. fig. 1. See Verbesina calendulacea.

CALTHA officinalis, Scop. arvensis, C. Bauh. ; minima, J. Bauh. See Calendula arvensis.

CALTHA vulgaris, C. Bauh. See Calendula officinalis.

CALTHA maritima, Tour. inf. 499. See Calendula icaena.

CALTHA africana flore extus ferrugineo, Morif. hirt. 3. Tab. 8. See Calendula pluriflora.

CALTHA nomine majori oblongo, Breyn. Tab. 14. fig. 2. See Calendula hybridis.

CALTHA feminine pleno cordato, Boerhaav. Lugd. See Calendula nudicaulis.

CALTHA folis erici angustis, Boerhaav. Lugd. See Calendula graminifolia.

CALTHA, in Entomology, the species of Chermes that feeds on the flowers of the caltha palustris, whence its name. Linn. Fa. Suec.

Ob! The antennae are black at the tip; thorax rufous with three black curves; wings white with yellowish veins, and a brown dot.

CALTHELLA, a species of Phalena, in the Tinea family, the anterior wings of which are entirely golden; and the head ferruginous. Linn. Fa. Suec. Frequent in Europe, on the flowers of caltha palustris. Its size is small. This is the rubiformis of the Vienna catalogue.

CALTHIeriSSA, in Ancient Geography, a town of Asia, in Lesser Armenia, according to Ptolemy, marked in the Itinerary of Antonius on the route between Nicopolis and Satala.

CALTROP, or Calthrop, in Military Language, an instrument with four iron points, each three or four inches long, disposed triangularly; so that there are always three points bearing on the earth, the fourth being in the air. Several of these, fixed in the ground, or thrown into breaches where the cavalry is to pass, track into the horses' feet and embarrass them.

An instrument of this kind with three iron spikes is used in Siberia &c. in hunting the wolf.

CALTROPS, in Botany. See TRIBULUS.

CALTROPS, water. See Trapa.

CALTHA, in Geography, a fortres of the island of Ceylon, at the mouth of a river, which is one of the largest branches of the Nilwady, and is here about a mile broad. It washes two sides of the fort which commands it, and is navigable by boats to the sea. The eminence on which the fort stands overhangs the river, and commands an extensive and most picturesque prospect. This fort from its situation is capable of being rendered a very strong post. The commanding officer prefers in the court of justice, and determines all disputes among the peacocks. The sea, the elplanade, and the village on the outside of the fort, as well as the beautiful surrounding country, render Caltha a very delightful scene. Some tracts of cinnamon are scattered up and down in the vicinity of it; and a little way south of it is the termination of that fertile district of Colombo which contains so great a proportion of the wealth of Ceylon. About 10 miles from Caltha is a temple of "Buddha," built on a flat space, cut out of a small hill. It is a small square building, constructed of brick, with a sloping tiled roof, and a gallery surrounding it. In an apartment of this temple, the image of the deity, about 12 feet long, lay reclining on his side, with his right hand under his head: the place was illuminated with lamps, and flowers in abundance were spread around. The walls were daubed with streaks of red, black, and white paint; and on them were marked some Cingelese characters. Near the temple were a few huts for the priests. The country about Caltha abounds with game, and certain native manufactures are carried on to a considerable extent around it. A great quantity of arrack is made from the groves of cocoa trees, which extend several miles in every direction, forming from Colombo to Caltha, and several miles beyond it, one continued grove. Here is also a large plantation of sugar-canes, and a distillery of rum is carried on by some Dutchmen, who reside in the village and neighbourhood; but this rum is much inferior in quality to that of the West Indies. Six miles onward from Caltha lies "Barebaren," a small village, with a fort of harbour formed by a projection of land where the river runs into the sea. This is almost the only place where the high surf and rocky shore on this coast allow ship-boats of European construction to land. At Barebaren there is a considerable manufacture of cordage and cables from the cocoa-tree. Large quantities are sent from hence to Colombo and Point de Galle, to supply the vessels which trade to these ports. A few miles further lies "Bentot," only remarkable for producing the boat oysters on the island, and almost the only species used on the island as food. Caltha is distant about 28 miles from Colombo. N. lat. 6° 34'. E. long. 79° 50'. Percival's Ceylon. See COLUMBO and Point de Galle.


CALVADOSS, in Geography, a ridge of rocks, near the coast of France, 12 miles in length. N. lat. 49° 22'. W. long. 5° 51' to 0° 32'.

CALVADOS, one of the five departments so called from the long ridge of rocks above-mentioned, formed of Normandy and the north part of Perche. It is bounded on the north by the Channel; on the east by the department of Eure;
on the south by that of Orne, and part of the department of the Channel, which also bounds it on the west. It extends from the mouth of the Seine easterly, to the river Vire westerly, about 50 miles, and 50 miles from north to south: its superficies is about 1,117,643 square acres, or 570,427 hectares: its population consists of about 484,212 persons: and it is divided into six communal districts. Its capital is Caen.

CALVARIA, or Calva, the scalp, or upper part of the head; so called from its growing bald first. See Baldness. The external parts of the calva are the synicpum, occiput, vertex, and temples; all invested with the hair, and the common integments of the body.

The calvaria in adults consists of eight bones, one of the forehead, another of the occiput, two of the synicpum, two of the temples, and two others common also to the upper jaw, viz. the cuneiforme and spongiform.

CALVART, Denis, in Biography, a painter of history and landscape, was born at Antwerp in 1555. He began with painting landscapes; but as he wished to adorn them with human figures, he determined to seek improvement for this purpose in Italy. In his way to Rome he stopped at Bologna, where he became the disciple of Prof-nero Fontana. During his residence in this city, he applied with diligence to the study of his art, and copied the works of Correggio and Parmigianof. He then accompanied Lorenzio Sabattini to Rome; and perfected himself in design, perspective, architecture and anatomy. From Rome he returned to Bologna, where he opened an academy, which was much frequented, and which produced, besides a number of other excellent artists, Guido, Albano, and Domenichino. He lived with his pupils on terms of easy familiarity, and took great pains in improving them; though his character was degraded by passion and avarice. His own works were simple in their design, correctly drawn, well disposed, coloured in a grand style, and touched with freedom and elegance; but they are not altogether free from a Gothic air, which he brought from his own country. His principal performances are at Rome and Bologna; in the latter place there is a fine picture, representing two hermits, which is correctly designed, beautifully coloured, and delicately pencilled; and in the Pembroke collection at Wilton, there is a nativity painted by this master. Some of his works have been engraved. Calvart died at Bologna in 1619. D'Argenville. Tinkington.

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